

QT-90ZR/ZG

# SHARP SERVICE MANUAL



Auto Program Search System



Auto Program Pause System



GRAPHIC EQUALIZER

S93B5QT-90ZR/

QT-90ZR  
QT-90ZG

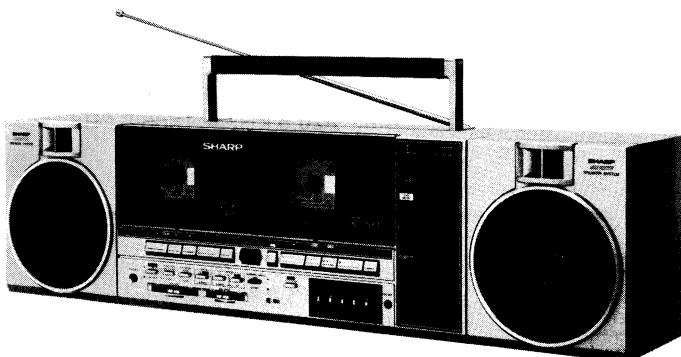


PHOTO : QT-90ZG

In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

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SHARP CORPORATION OSAKA, JAPAN

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT,  
PLEASE REFER TO THE OPERATION MANUAL.

## SPECIFICATIONS

Power source:	AC110V – 127V and 220V – 240V, 50/60Hz DC 12V (UM/SUM-1 or R20 type x 8, or external 12V DC)	Signal/noise ratio: 55 dB (Deck 1, playback) 50 dB (Deck 2, recording)
Output power: (DIN 45 324)	PMPO; 25W (12.5W + 12.5W) (AC operation) MPO; 20W (10W + 10W) (AC operation) RMS; 10W (5W + 5W) (DC operation 10% distortion)	Input impedance: Mixing mic; 600 ohms Phono/line in; 50 kohms/200 kohms
Semiconductors:	15 ICs 26 transistors 51 diodes 9 LEDs	Loaded impedance: Headphones; 8 ohms – 32 ohms External speakers; 3 ohms – 8 ohms Line out; 0.65V/50 kohms
Dimensions:	Width; 589 mm (23-7/32") Height; 157 mm (6-3/16") Depth; 170 mm (6-11/16")	<b>RADIO</b> Frequency range: AM; 526.5 kHz – 1606.5 kHz SW <sub>1</sub> ; 2.3 MHz – 7.3 MHz SW <sub>2</sub> ; 7.3 MHz – 22 MHz FM; 87.6 MHz – 108 MHz
Weight:	5.4 kg (11.9 lbs.) without batteries	<b>SPEAKER</b> Speakers: 10 cm (4") free-edge woofer x 2 Horn type tweeter x 2
<b>TAPE RECORDER</b>		Impedance: 3 ohms Input: 13W (maximum)
Tape:	Compact cassette tape	<b>Specifications for this model are subject to change without prior notice.</b>
Frequency response:	40Hz – 14,000Hz (normal tape) 40Hz – 15,000Hz (CrO <sub>2</sub> tape) 40Hz – 16,000Hz (metal tape)	

## DIAL CORD STRINGING

- 1) Turn the drum fully clockwise and stretch its cord over the parts in the numerical order – as shown in Figure 2 – 1.
- 2) Turn the tuning control shaft fully counterclockwise, and fix it with the pointer aligned with the zero (0) point on the frame. See Figure 2 – 2.

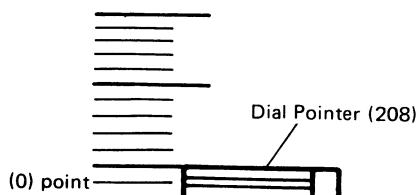


Figure 2-2

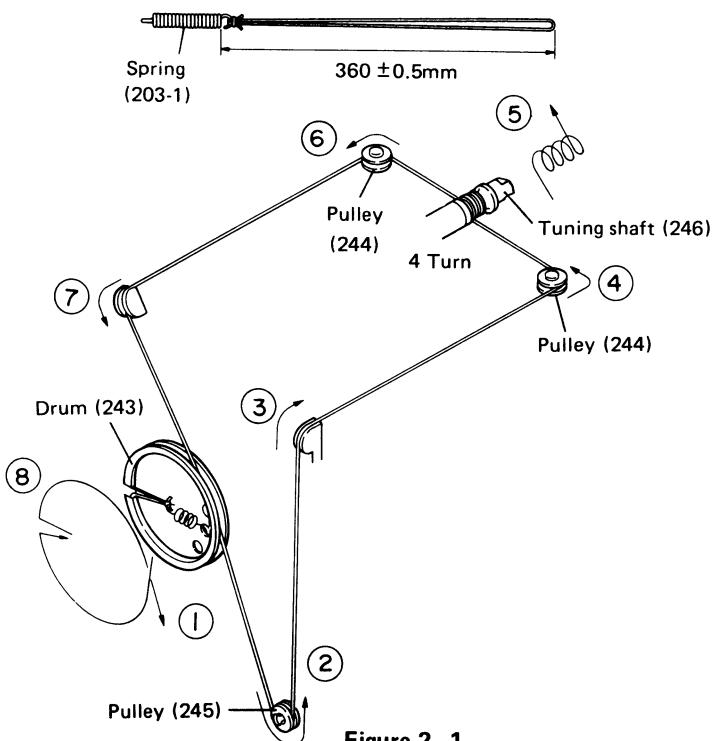


Figure 2-1

## NAMES OF PARTS

- |   |                                      |
|---|--------------------------------------|
| 1. Deck 1 Cassette Compartment              | 25. Deck 2 Fast-forward/Cue Button   |
| 2. Deck 2 Cassette Compartment              | 26. Deck 2 Stop/Eject Button         |
| 3. Level Meter                              | 27. Deck 2 Pause Button              |
| 4. Digital Tape Counter and Reset Button    | 28. Power Switch                     |
| 5. Tuning Control                           | 29. Function Selector Switch         |
| 6. Fine Tuning Control                      | 30. FM Mode Selector Switch          |
| 7. Headphones Jack                          | 31. Deck 1 Tape Selector Switch      |
| 8. Volume Control                           | 32. Deck 2 Tape Selector Switches    |
| 9. Balance Control                          | 33. Dubbing Speed Selector Switch    |
| 10. Graphic Equalizer Controls              | 34. APPS Set/Clear Switch            |
| 11. APPS End Pause Indicator                | 35. Mixing Microphone Jack           |
| 12. Band Selector                           | 36. Speaker Lock/Release Knob        |
| 13. APPS Indicator                          | 37. FM/SW Telescopic Rod Antenna     |
| 14. FM Stereo Indicator                     | 38. AC Power Supply Socket           |
| 15. Power Indicator                         | 39. External DC Power Supply Socket  |
| 16. Deck 1 Play Button                      | 40. Battery Compartment              |
| 17. Deck 1 Rewind Reverse APSS Button       | 41. Speaker Cord Holder              |
| 18. Deck 1 Fast-forward Forward APSS Button | 42. External Speaker Jack            |
| 19. Deck 1 Stop/Eject Button                | 43. Line Output Jacks                |
| 20. Deck 1 Pause Button                     | 44. Phono/Line Input Selector Switch |
| 21. Dubbing Start Button                    | 45. Phono/Line Input Jacks           |
| 22. Deck 2 Record Button                    | 46. Ground Terminal                  |
| 23. Deck 2 Play Button                      | 47. Beat Cancel Switch               |
| 24. Deck 2 Rewind/Review Button             |                                      |

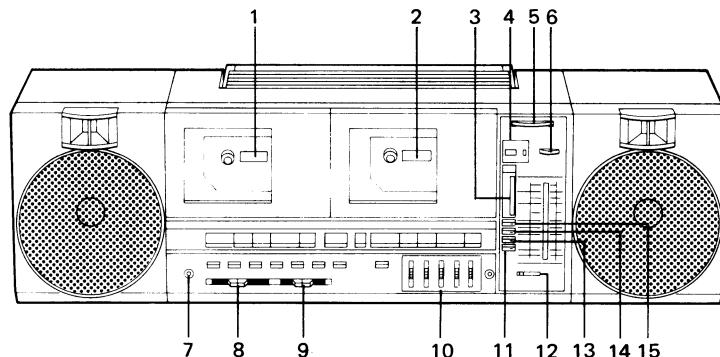


Figure 3 - 1

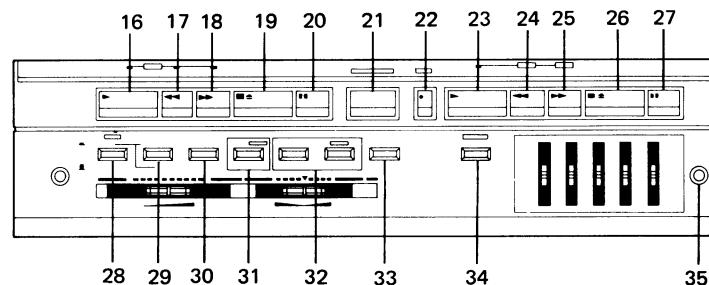


Figure 3 - 2

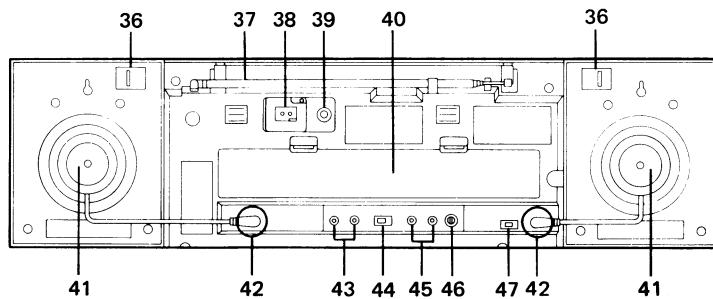


Figure 3 - 3

## DISASSEMBLY

## Caution:

Since this model employs the Power Assist Drive (PAD) mechanism, be sure to replace the record/playback head to its original position prior to the disassembly. And remove the power supply cord plug, cassette tape and batteries from the unit.

Step	Parts to be removed	Removal	Pcs.	Figure
<b>Main body section;</b>				
1	Front cabinet	Battery compartment lid (A)	1	4-1
		Screw (B), (C)	4, 2	
		Tip (D)	1	4-2
2	Mechanism block	Tape counter drive belt (E)	1	4-2
		Screw (F)	6	
		Socket (G)	4	
3	Main P.W.B.	Tip (H)	1	4-3
		Socket (I)	1	
		Wire lead (J) *1	1	
		Screw (K) *2	4	
<b>Speaker section:</b>				
1	Rear cabinet	Screw (L)	4	4-4
		Screw (M)	1	
		Speaker cord holder(N)	1	
		Tip (O)	2	

\*1: Unsolder the wire lead.

\*2: To remove the screws (K), remove the tuning knob (P) and bracket (Q) beforehand.

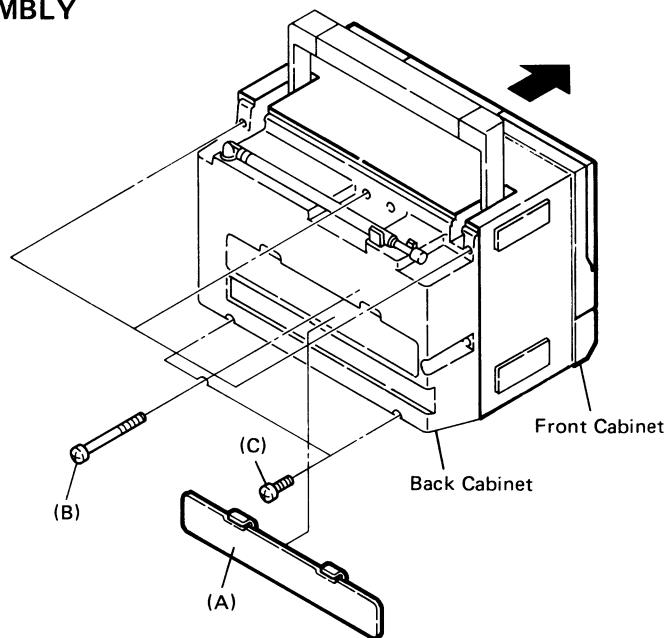


Figure 4 - 1

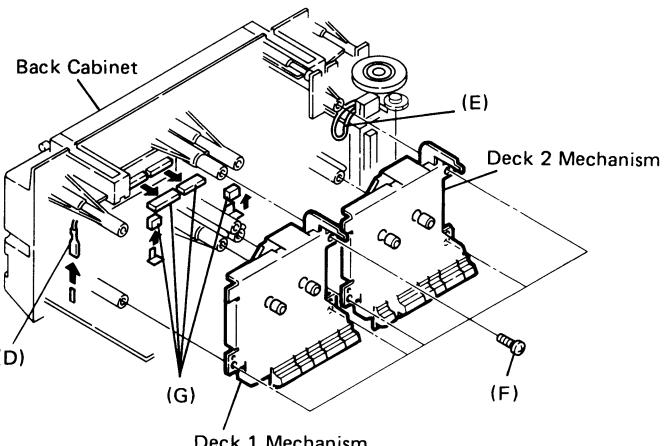


Figure 4 - 2

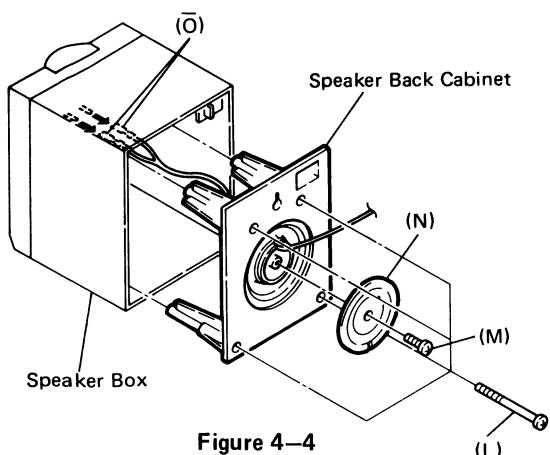


Figure 4-4

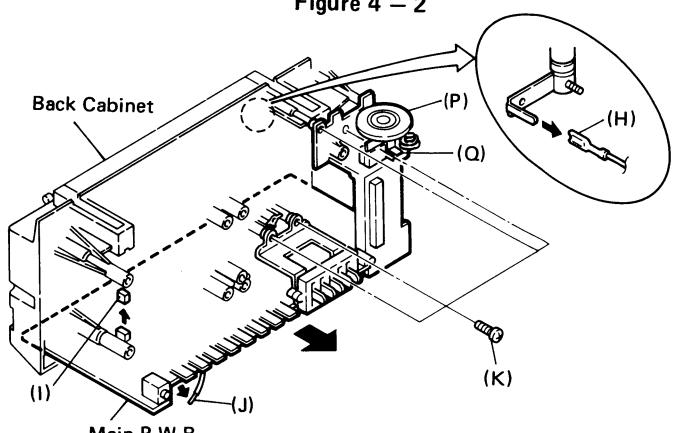


Figure 4 - 3

## VOLTAGE SELECTION

Before operating the unit on mains, check the preset voltage. If the voltage is different from your local voltage, adjust the voltage as follows: Slide the AC power supply socket cover by a little loosing screw to the visible indication of the side of your local voltage. See Figure 4 - 5.

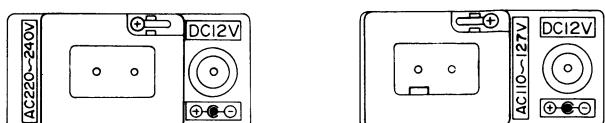


Figure 4-5

TAPE TENSION CHECK

1. Put a tape tension measuring cassette (TW-2412) into the unit.
2. See that the tape tension measured is more than 150 g-cm.

TORQUE CHECK AT PLAY, FAST FORWARD AND REWIND MODES

Put a torque meter cassette in the cassette compartment of the set, and see that the measured torque in each mode is normal as shown in Table 6.

Mode	Torque meter cassette	Measured torque
Playback	TW-2111	35 ~ 60 g-cm
Fast-forward	TW-2231	90 ~ 135 g-cm
Rewind	TW-2231	90 ~ 135 g-cm

Table 6

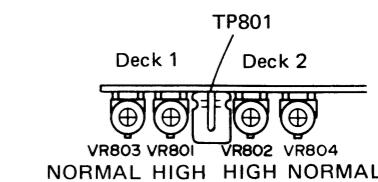


Figure 6-1

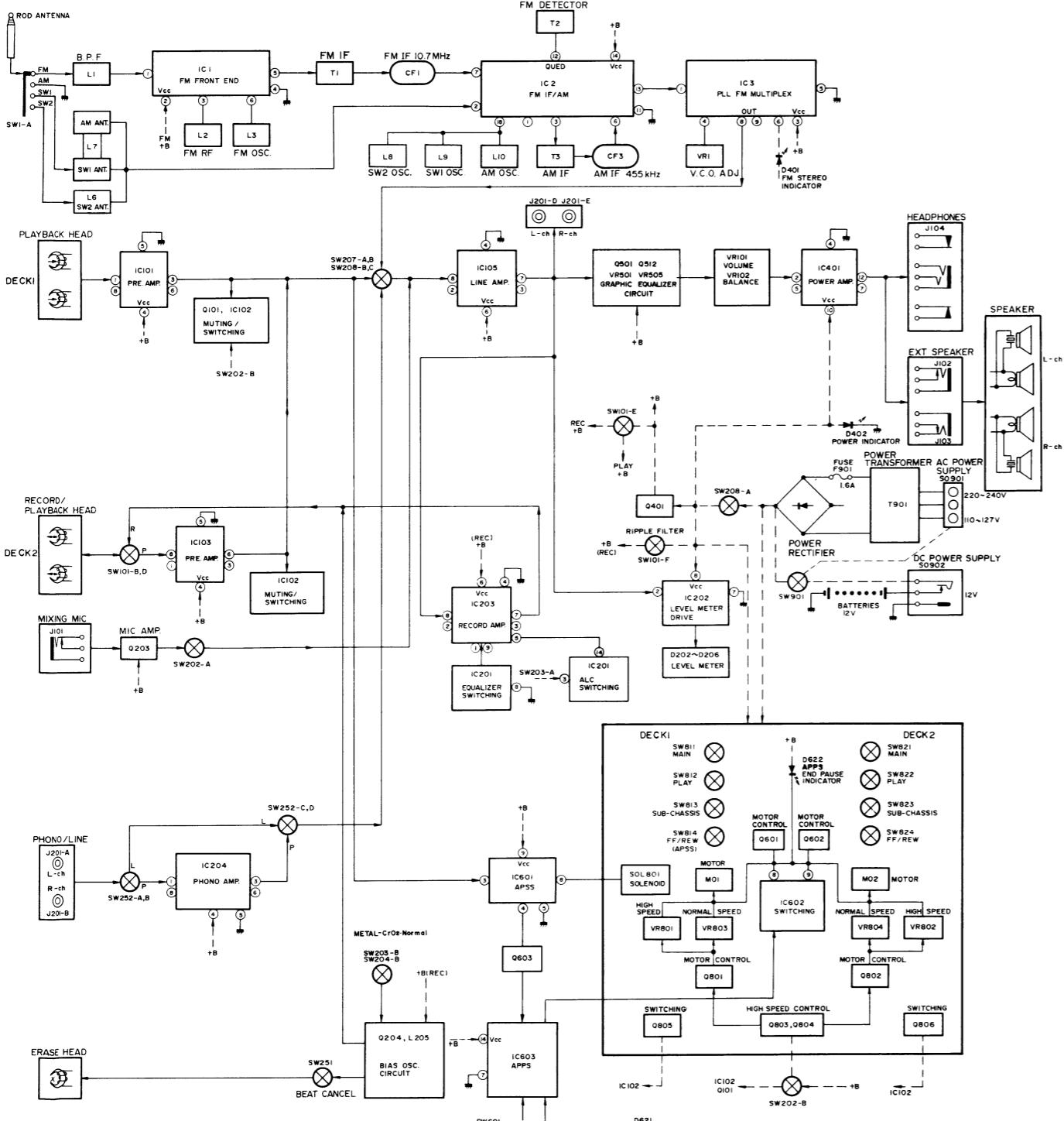


Figure 5 BLOCK DIAGRAM

TAPE SPEED ADJUSTMENT

Caution:

Perform the high speed adjustment first and then the normal speed adjustment; if the order is reversed, the normal speed once adjusted will be affected by the following high speed adjustment.

Step	Tape speed	Test tape	Deck 1		Deck 2	
			Frequency	Adjustment	Frequency	Adjustment
Connect wow/flutter meter to the line output socket, make TP801 (test pin) shorted with earth to get the unit in the high speed mode.						
1	High	MTT-118 (1 kHz)	1980 ± 10 Hz	VR801	Within -10 Hz different from that of Deck 1	VR802
Remove the shortcircuit of TP801.						
2	Normal	MTT-111 (3 kHz)	2970 ± 15 Hz	VR803	Within -15 Hz different from that of Deck 1	VR804

RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

1. Connect instruments as shown in Fig. 6-2.
2. Set the dubbing speed selector switch SW202 to the normal position and deck 2 tape selector switch SW204 to normal position.
3. Play a test tape (TEAC, MTT-114, 10kHz, 250pWb/mm, -10dB prerecorded).
4. Adjust the head azimuth adjusting screw so that sine waveform attains the maximum.

ELECTRICAL ADJUSTMENT

BIAS OSCILLATOR FREQUENCY CHECK

1. Connect instruments as shown in Fig. 6-3.
2. Set the power switch SW208 to tape and the beat cancel switch SW251 to A position.
3. Place the unit in record mode, and see that the frequency counter reads  $92 \pm 5\text{kHz}$ . Changing the beat cancel switch from A to B position, see that the frequency counter reading changes by  $+4 \sim 6\text{kHz}$  from the previous value  $92 \pm 5\text{kHz}$ ; and with the beat cancel switch set at C position, see that it changes by  $-3.0 \sim 5\text{kHz}$  from previous value  $92 \pm 5\text{kHz}$ .

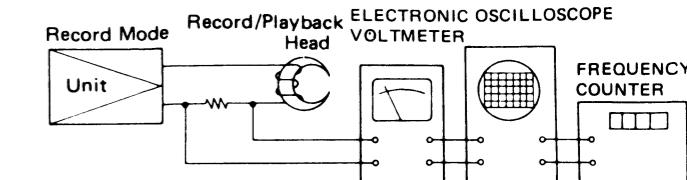


Figure 6-3

PLAYBACK AMPLIFIER SENSITIVITY CHECK

1. Connect instruments as shown in Figure 6-4.
2. Set the power switch SW208 to tape and the deck 2 tape selector switch SW204 to normal, the volume control knob at max, and the graphic equalizer control knobs to 0 position.
3. Playback a test tape (TEAC MTT-118, 1kHz, 250 pWb/mm, -10 dB prerecorded).
4. See that the electronic voltmeter is reading about 1.8V.

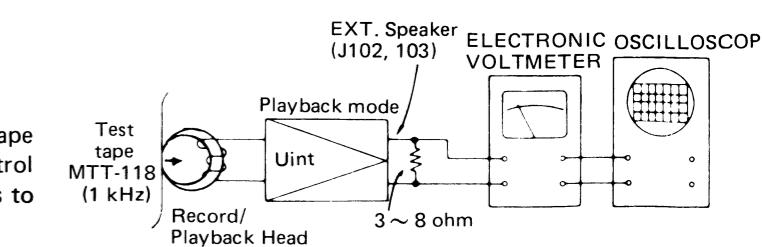


Figure 6-4

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## GENERAL ADJUSTMENT INSTRUCTION

Should it become necessary at any time to check the alignment of this receiver, proceed as follows:

- Set the volume control to maximum.
- Attenuate the signals from the generator enough to swing the most sensitive range of the output meter.
- Use a non-metallic alignment tool.
- Repeat adjustments to insure good results.
- Set the function selector switch to radio position.

## AM IF/RF ALIGNMENT

- Set the signal generator to produce a signal of 400Hz, 30%, AM modulated.
- For adjustments in steps 4 and 9, see Note A.

STEP	BAND	TEST STAGE	FREQUENCY	DIAL SETTING	ADJUSTMENT	REMARKS		
IF (Connect instruments as shown in Figure 7-1.)								
1	AM	IF	455kHz	High end of dial	T3	Adjust for best "IF" curve		
RF (Connect instruments as shown in Figure 7-2.)								
2	AM	Band coverage	510kHz	Low end of dial	L10	Adjust for maximum output		
3	AM		1650 kHz	High end of dial	TC8			
4	AM		600kHz	600 kHz	L7			
5	AM		1400 kHz	1400 kHz	TC5			
6	Repeat steps 2,3,4 and 5 until no further improvement can be made.							
RF (Connect instruments as shown in Figure 7-3.)								
7	SW <sub>1</sub>	Band coverage	2.25 MHz	Low end of dial	L9	Adjust for maximum output		
8	SW <sub>1</sub>		7.4MHz	High end of dial	TC7			
9	SW <sub>1</sub>		2.6MHz	2.6MHz	L7			
10	SW <sub>1</sub>		6.0MHz	6.0 MHz	TC4			
11	Repeat steps 7,8,9 and 10 until no further improvement can be made.							
12	SW <sub>2</sub>	Band coverage	7.2MHz	Low end of dial	L8	Adjust for maximum output		
13	SW <sub>2</sub>		22.5 MHz	High end of dial	TC6			
14	SW <sub>2</sub>		8.5MHz	8.5 MHz	L6			
15	SW <sub>2</sub>		19MHz	19 MHz	TC3			
16	Repeat steps 12, 13, 14 and 15 until no further improvement can be made.							

### Note A

Check the alignment of the receiver antenna coil by bringing a piece of ferrite (such as a coil slug) near the antenna loop stick, then a piece of brass. If ferrite increases output, loop requires more inductance. If brass increases output, loop requires less inductance. Change loop inductance by sliding the bobbin toward the center of ferrite core to increase inductance, or away to decrease inductance.

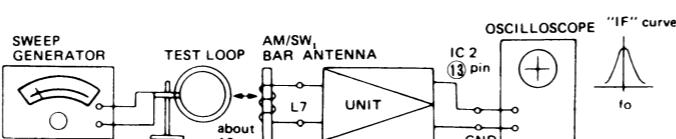


Figure 7-1 AM IF

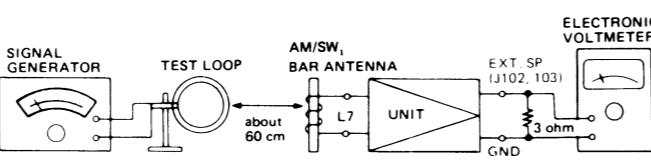


Figure 7-2 AM RF

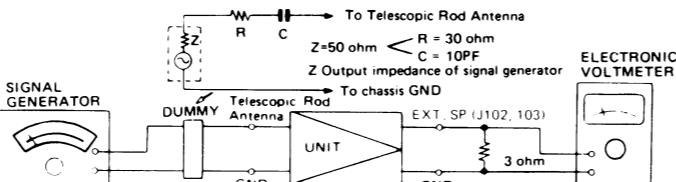


Figure 7-3 SW RF

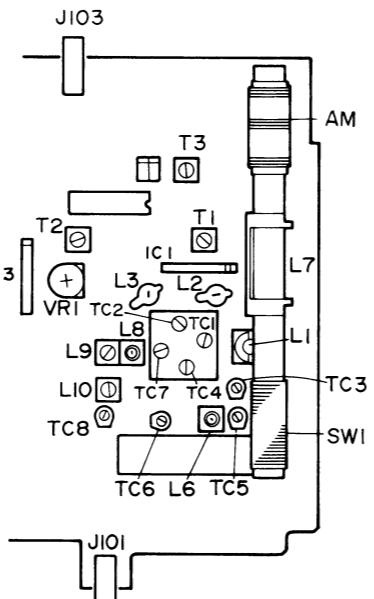


Figure 7-4 Adjustment Points

## FM IF/RF ADJUSTMENT

- Set the signal generator to produce a signal of 400Hz, 30%, FM modulated.

STEP	BAND	TEST STAGE	FREQUENCY	DIAL SETTING	ADJUSTMENT	REMARKS
IF (Connect instruments as shown in Figure 8-1.)						
1	FM	IF	10.7 MHz	High end of dial	T1 T2	Adjust for best "S" curve
RF (Connect instruments as shown in Figure 8-2.)						
2	FM	Band coverage	87.1 MHz	Low end of dial	L3	Adjust for maximum output
3	FM		109 MHz	High end of dial	TC2	
4	FM		88 MHz	88 MHz	L2	
5	FM		108 MHz	108 MHz	TC1	
6	Repeat steps 2,3,4 and 5 until no further improvement can be made.					

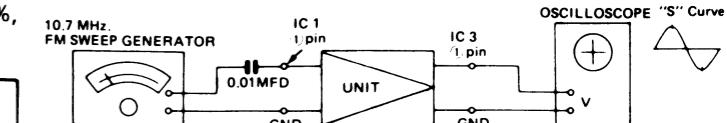


Figure 8-1 FM IF

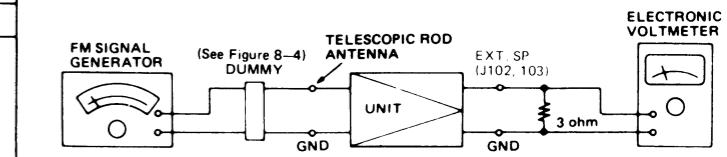


Figure 8-2 FM RF

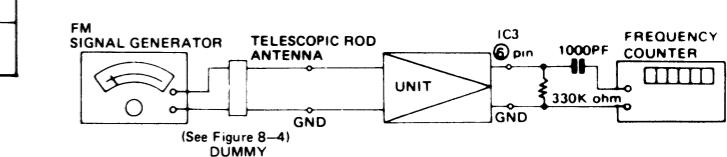


Figure 8-3 FM STEREO

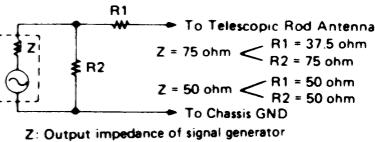
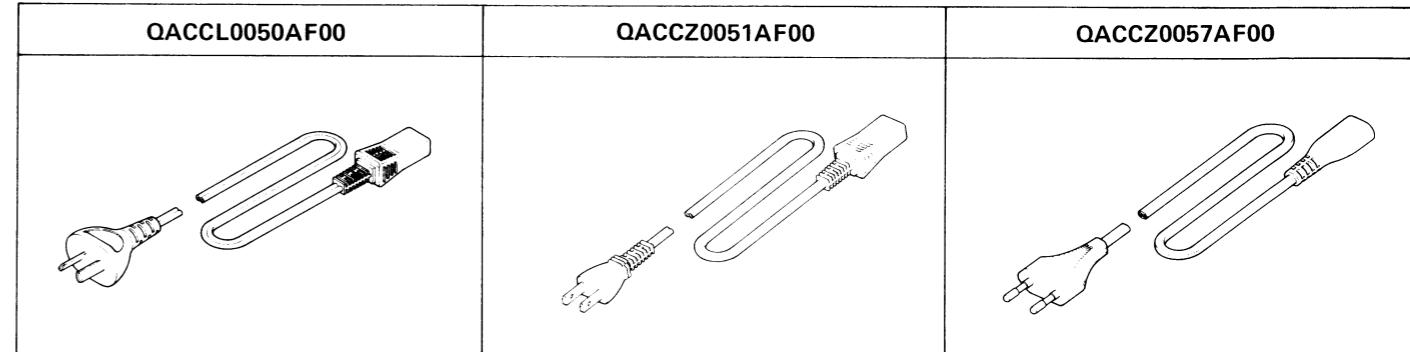


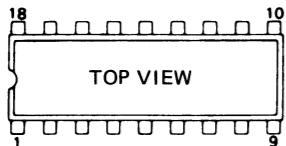
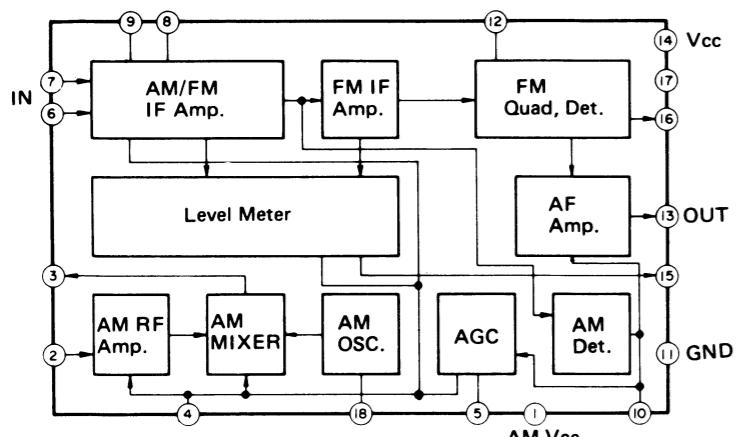
Figure 8-4 FM DUMMY

## AC POWER SUPPLY CORD

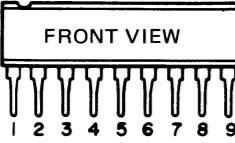


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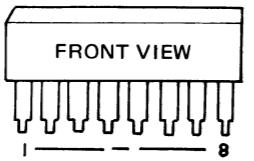
IC2: VHIAN7224/-1 (AN7224)



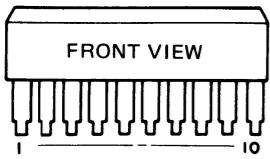
IC1: VHIBA4402/-1(BA4402)  
IC601: VHIBA3706/-1(BA3706)



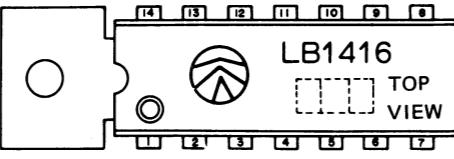
IC101, 103, 204:  
RH-IX1079AFZZ (M51521L)



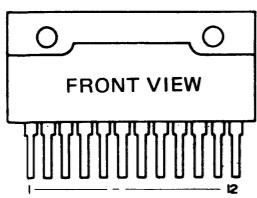
IC105/203: VHIM51544L/-1(M51544L)



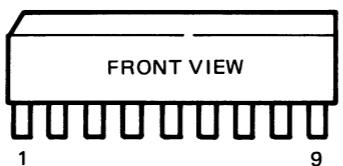
IC202: VHILB1416/-1(LB1416)



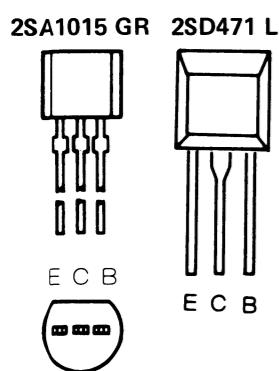
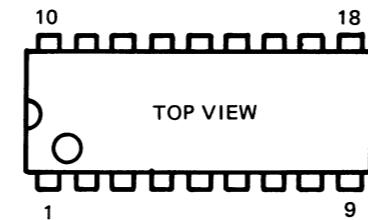
IC401: VHIHA1392/-1 (HA1392)



IC602: VHITD62554/-1 (TD62554)

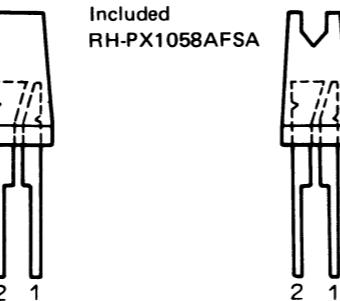


IC603: RH-IX1144AFZZ (TC4001BP)



E: Emitter  
C: Collector  
B: Base

D202~206 D401, 402, 621, 622



1: ANODE  
2: CATHODE

# NOTES ON SCHEMATIC DIAGRAM

- The voltage in each part is measured with no signal given.
- As for the tuner circuit, the voltage indication without parentheses is in FM stereo mode, and that with parentheses is in AM/SW<sub>1</sub>/SW<sub>2</sub> mode.
- As for the audio circuit, the voltage indication is in play mode at normal speed; the voltage indication with parentheses is in record mode at normal speed.
- Unless otherwise specified, resistors are shown in ohm, K (1000 ohm), M (1000K ohm), and 1/4W type.

## Capacitor:

- Unless otherwise specified capacitors are shown in microfarads, P = Picofarads
- (CH), (RH): Temperature compensation
- (PP): Polypropylene type
- (ML): Mylar type
- (ST): Styrol type

Parts marked "▲" (■■■) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

Specifications or schematic diagrams of this model are subject to change for improvement without prior notice.

REF. NO.	DESCRIPTION	SWITCH POSITION
SW1	Band Selector	FM-AM-SW <sub>1</sub> -SW <sub>2</sub>
SW101	Record/Playback Selector	RECORD-PLAYBACK
SW202	Dubbing Speed Selector	HIGH-NORMAL
SW203	Deck 2 Tape Selector	NORMAL/CrO <sub>2</sub> -METAL
SW204	Deck 2 Tape Selector	NORMAL-CrO <sub>2</sub>
SW205	Deck 1 Tape Selector	NORMAL-CrO <sub>2</sub> /METAL
SW206	FM Mode	MONO-STEREO
SW207	Function Selector	RADIO-LINE/PHONO
SW208	Power	RADIO-LINE/PHONO - OFF/TAPE
SW251	Beat Cansel	A - B - C
SW252	Input Selector	LINE IN-PHONO
SW601	APPS Set/Clear	ON - OFF
SW811	Deck 1 Main	ON - OFF
SW812	Deck 1 Play	ON - OFF
SW813	Deck Sub-chassis	ON - OFF
SW814	Deck 1 Fast-forward/Rewind (APSS)	ON - OFF
SW821	Deck 2 Main	ON - OFF
SW822	Deck 2 Play	ON - OFF
SW823	Deck 2 Sub-chassis	ON - OFF
SW824	Deck 2 Fast-forward/Rewind	ON - OFF
SW901	AC/DC Selector	AC - DC

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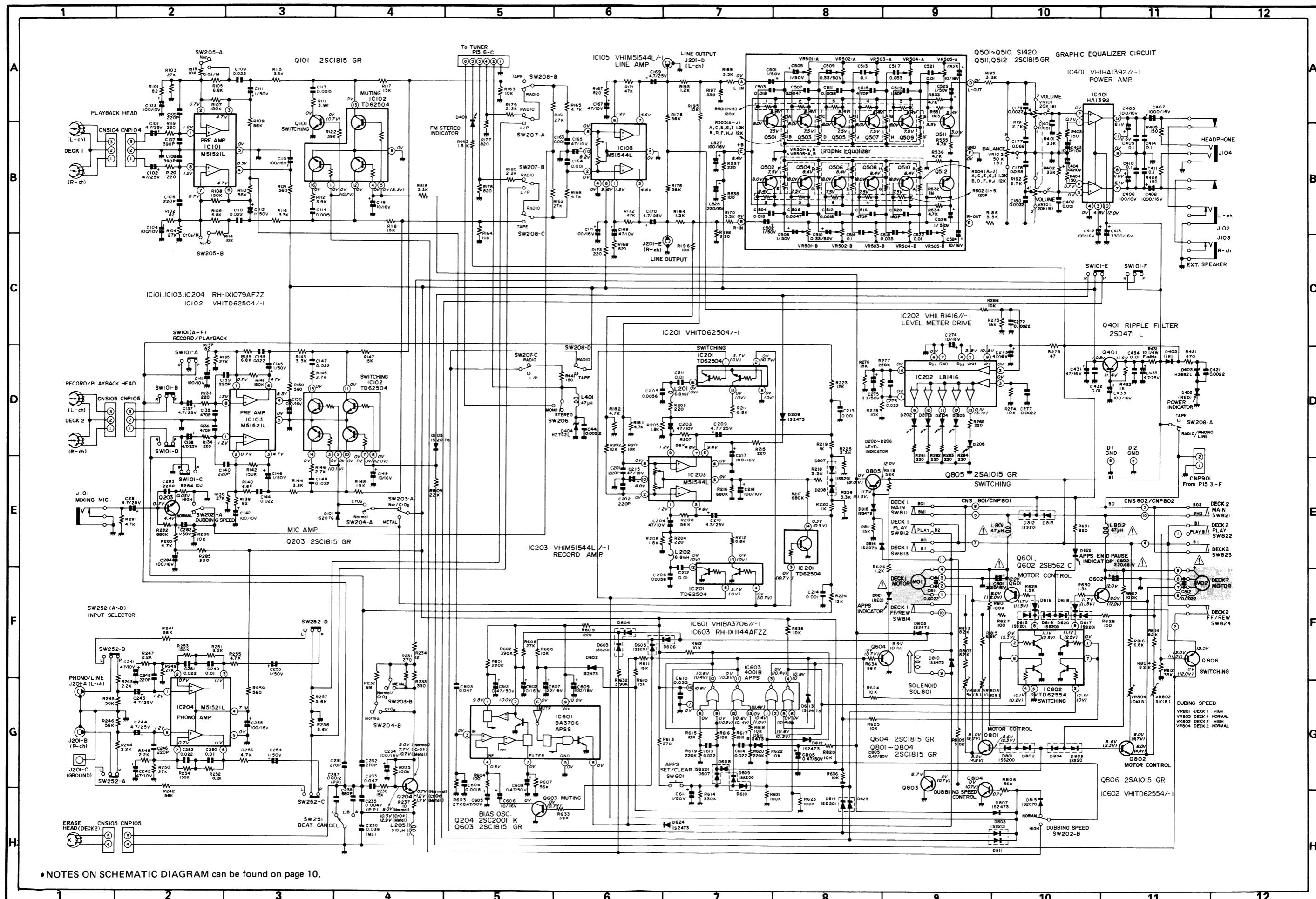
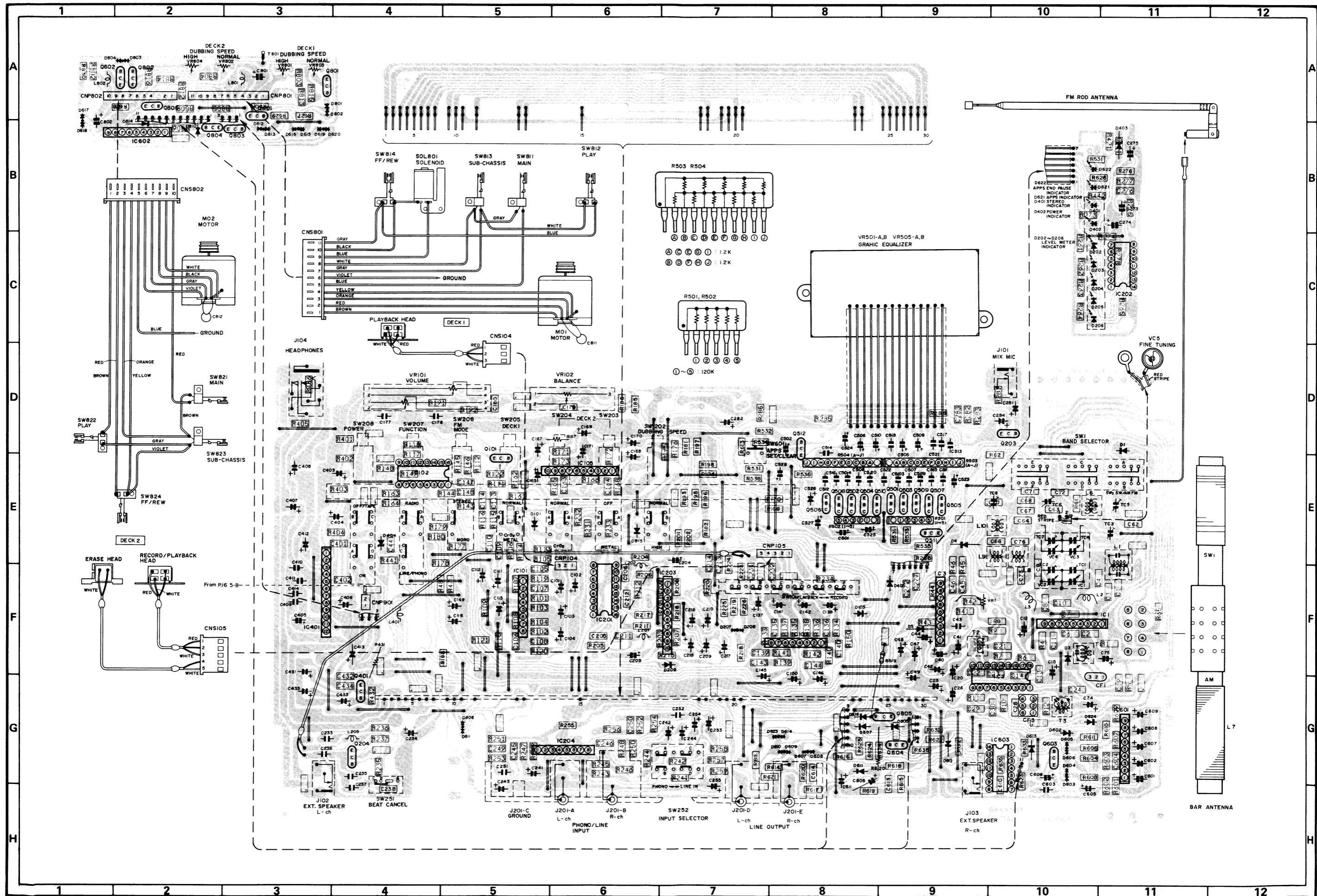


Figure 11 SCHEMATIC DIAGRAM (1/2)

## QT-90ZR/ZG    QT-90ZR/ZG



QT-90ZR/ZG QT-90ZR/ZG

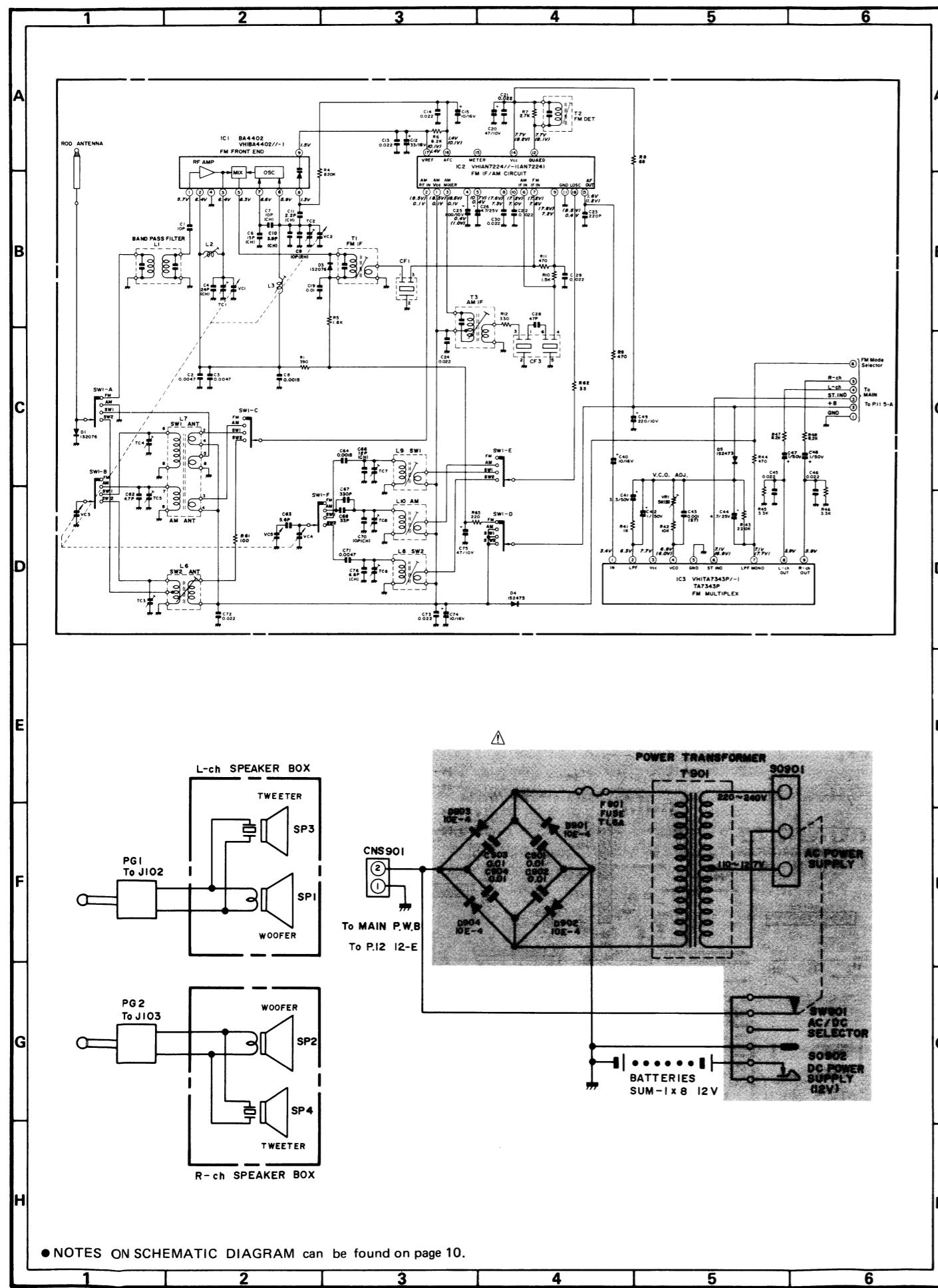


Figure 15 SCHEMATIC DIAGRAM (2/2)

- 15 -

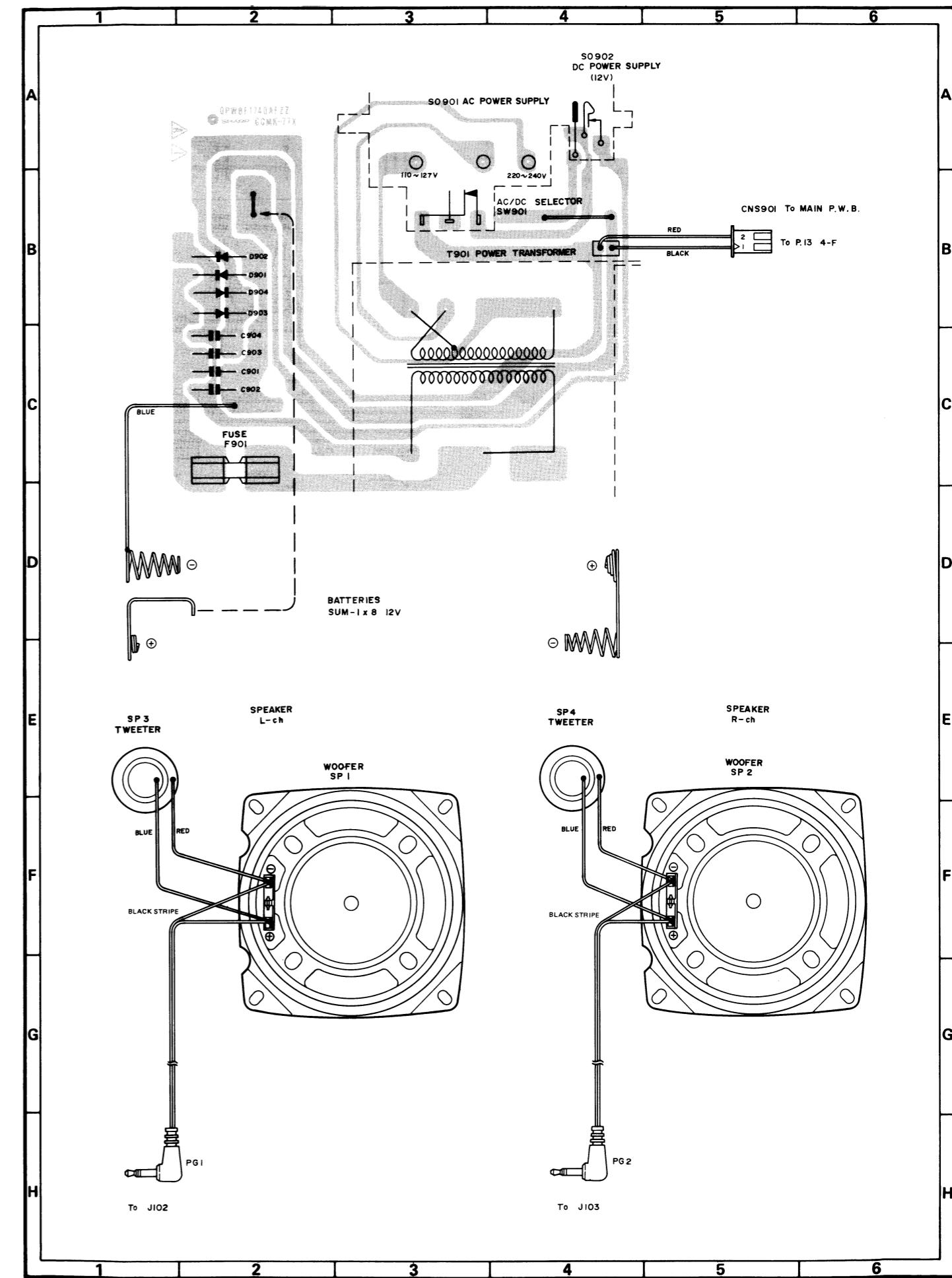


Figure 16 WIRING SIDE OF P.W.B. (2/2)

- 16 -

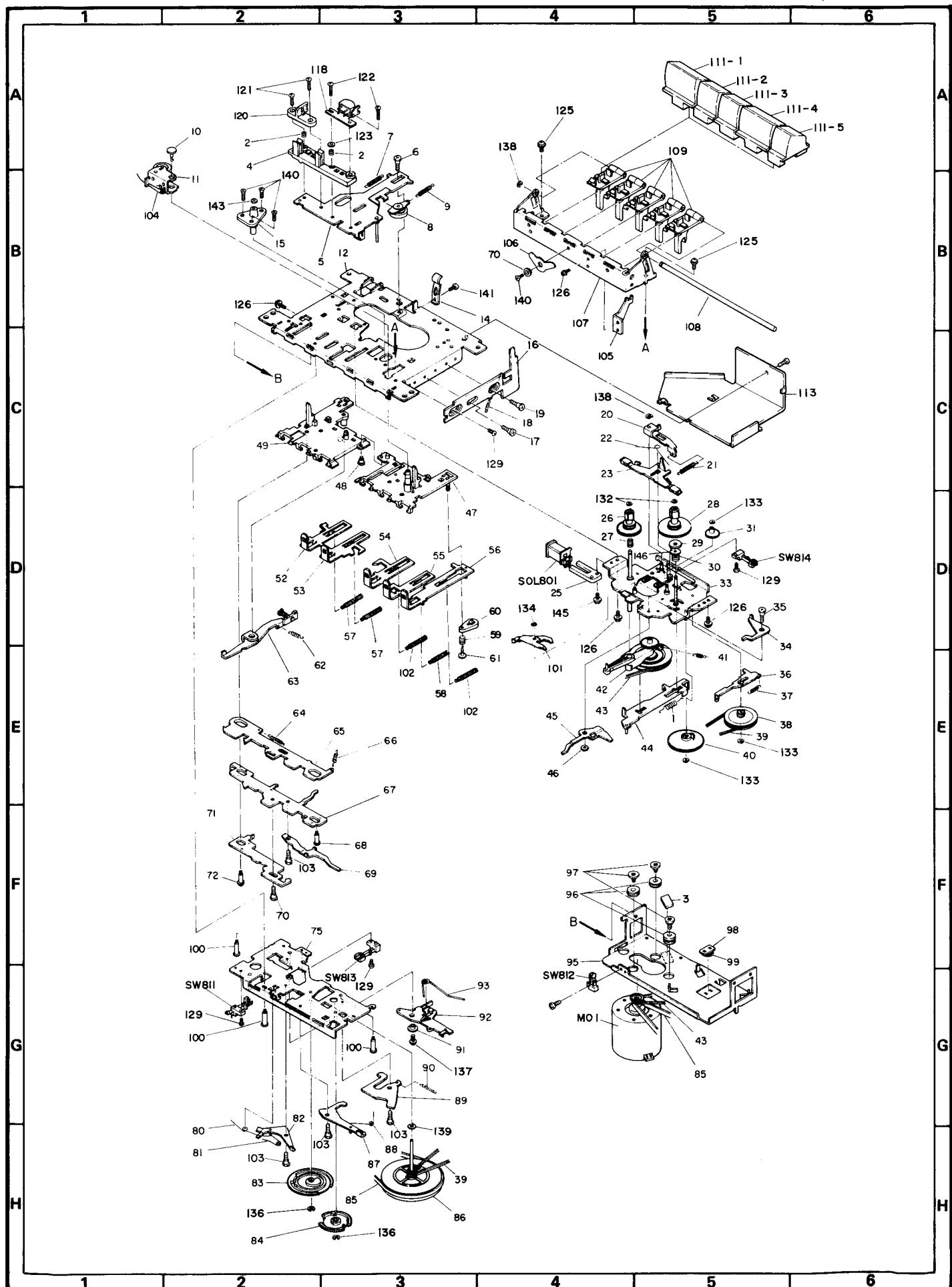
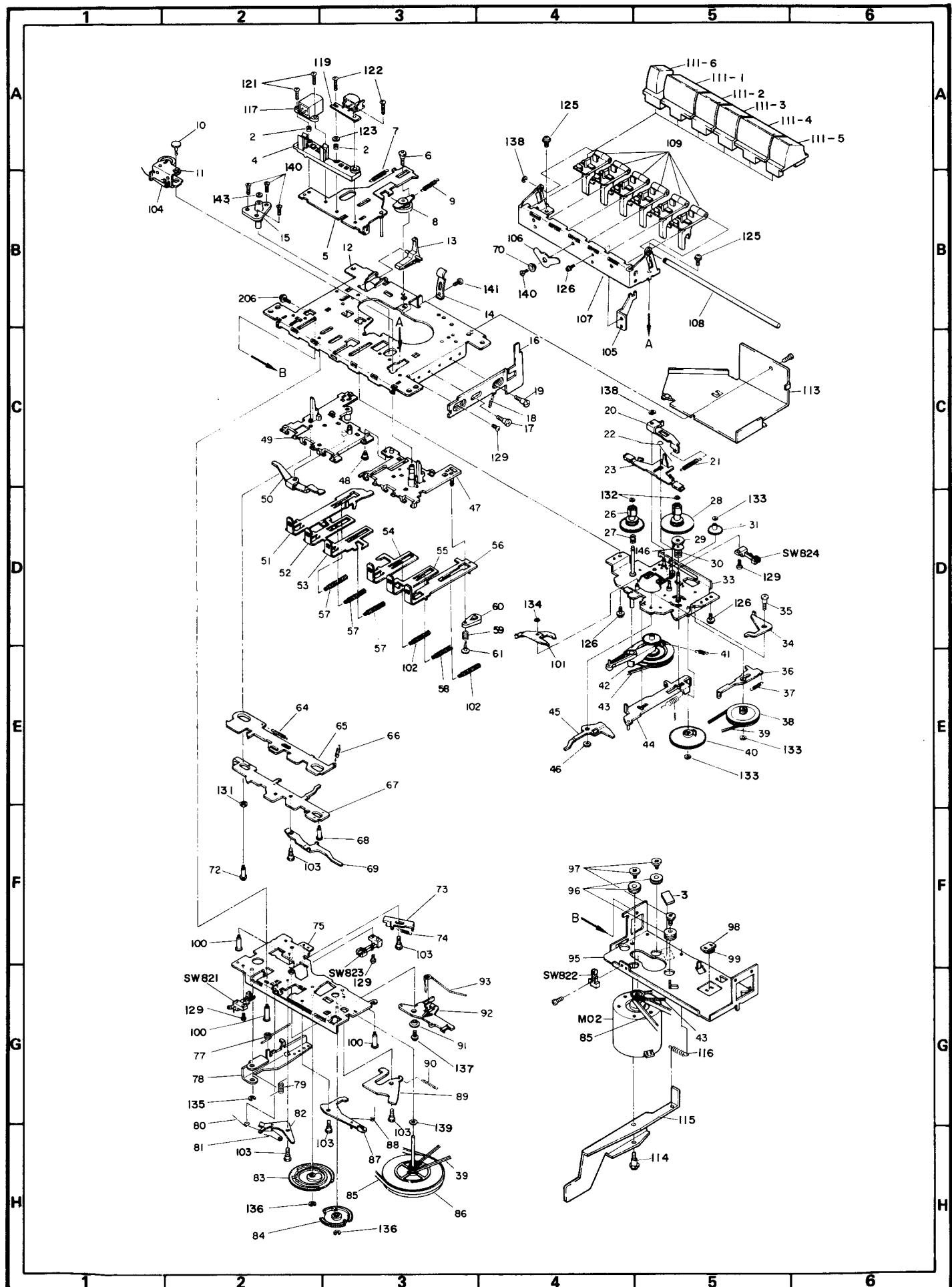
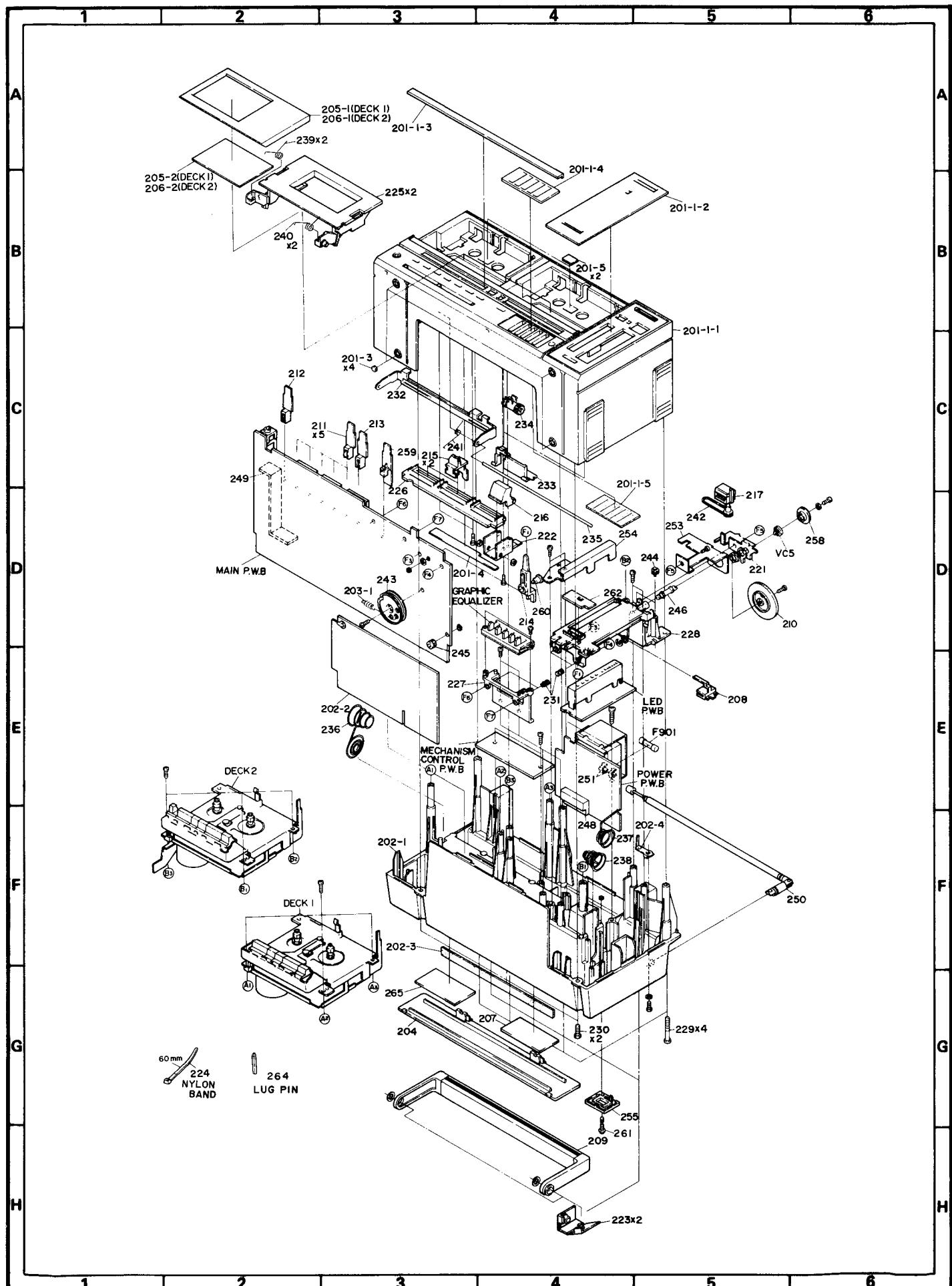


Figure 17 MECHANISM EXPLODED VIEW (DECK 1)



**Figure 18. MECHANISM EXPLODED VIEW (DECK 2)**



**Figure 19 CABINET EXPLODED VIEW**

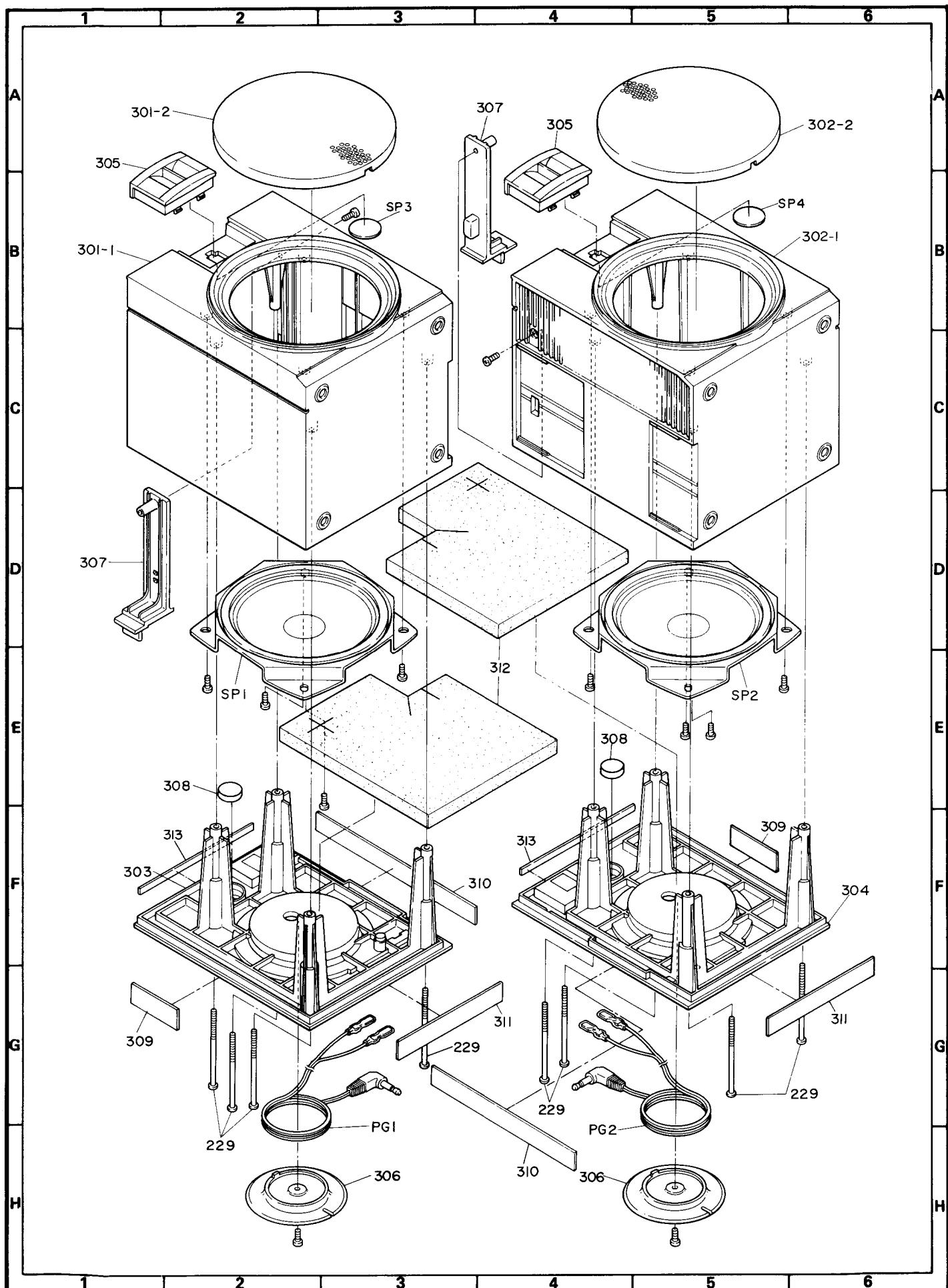


Figure 20 SPEAKER EXPLODED VIEW

# REPLACEMENT PARTS LIST

## "HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

- |                 |                |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO.    |
| 3. PART NO.     | 4. DESCRIPTION |

**NOTE:**

Parts marked with "▲" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE
<b>INTEGRATED CIRCUITS</b>							
IC1	VHIBA4402/-1	FM Front-End (BA4402)	AF	D1	VHD1S2076//U	Silicon, 1S2076	AB
IC2	VHIAN7224/-1	FM IF/AM Circuit (AN7224)	AH	D3	VHD1S2076//U	Silicon, 1S2076	AB
IC3	VHITA7343P/-1	PLL FM Stereo Multiplex (TA7343P)	AG	D4	VHD1S2473//U	Silicon, 1S2473	AB
IC101	RH-IX1079AFZZ	Deck 1, Pre-Amp. (M51521L)	AG	D5	VHD1S2473//U	Silicon, 1S2473	AB
IC102	VHITD62504/-1	Muting/Switching (TD62504)	AG	D101	VHD1S2076//U	Silicon, 1S2076	AB
IC103	RH-IX1079AFZZ	Deck 2, Pre-Amp. (M51521L)	AG	D105	VHD1S2076//U	Silicon, 1S2076	AB
IC105	VHIM51544L-1	Line Amp. (M51544L)	AG	D202,			
IC201	VHITD62504/-1	Switching (TD62504)	AG	D203,			
IC202	VHILB1416/-1	Level Indicator Drive (LB1416)	AK	D204,	RH-PX1058AFSA	LED, Red	AL
IC203	VHIM51544L-1	Record Amp. (M51544L)	AG	D205,			
IC204	RH-IX1079AFZZ	Phono Amp. (M51521L)	AG	D206			
IC401	VHIA1392/-1	Power Amp. (HA1392)	AR	D207/208	VHD1SS201//1	Silicon, 1SS201	AB
IC601	VHIBA3706/-1	APSS Circuit (BA3706)	AL	D209	VHD1S2473//U	Silicon, 1S2473	AB
IC602	VHITD62554/-1	Switching (TD62554)	AF	D401	Not Available	LED, Red, Part of REF.NO.D202	—
IC603	RH-IX1144AFZZ	NOR Gate (TC4001BP), (HD14001BP), (TP4001BN), (GD4001BCN), (MC14001BCP), (HB84001BM-G)	AE	D402	Not Available	LED, Red, Part of REF.NO.D202	—
<b>TRANSISTORS</b>							
Q101	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D403	VHEHZ6B2L/-1	Silicon, Zener, 5.6V~5.9V/400mW, HZ6B2L	AC
Q203	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D404	VHEHZ7C-2L/-1	Silicon, Zener, 7.3V~7.7V/400mW, HZ7C2L	AB
Q204	VS2SC2001-K-1	Silicon, NPN, 2SC2001 K	AB	D405	VHD11E1///-1	Silicon, 11E1	AB
Q401	VS2SD471-L/-A	Silicon, NPN, 2SD471 L	AD	D602	VHD1S2473//U	Silicon, 1S2473	AB
Q501	VSS1420///-1	Silicon, NPN, S1420	AB	D603/604	VHD1SS201//1	Silicon, 1SS201	AB
Q502	VSS1420///-1	Silicon, NPN, S1420	AB	D605/606	VHD1SS201//1	Silicon, 1SS201	AB
Q503	VSS1420///-1	Silicon, NPN, S1420	AB	D607/608	VHD1SS201//1	Silicon, 1SS201	AB
Q504	VSS1420///-1	Silicon, NPN, S1420	AB	D609/610	VHD1SS200//1	Silicon, 1SS200	AB
Q505	VSS1420///-1	Silicon, NPN, S1420	AB	D611	VHDISS2473//U	Silicon, 1S2473	AB
Q506	VSS1420///-1	Silicon, NPN, S1420	AB	D612	VHD1S2473//U	Silicon, 1S2473	AB
Q507	VSS1420///-1	Silicon, NPN, S1420	AB	D613	VHD1S2473//U	Silicon, 1S2473	AB
Q508	VSS1420///-1	Silicon, NPN, S1420	AB	D614/623	VHD1SS201//1	Silicon, 1SS201	AB
Q509	VSS1420///-1	Silicon, NPN, S1420	AB	D615/616	VHD1SS201//1	Silicon, 1SS201	AB
Q510	VSS1420///-1	Silicon, NPN, S1420	AB	D617/618	VHD1SS201//1	Silicon, 1SS201	AB
Q511	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D619/620	VHD1SS200//1	Silicon, 1SS200	AB
Q512	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D621	Not Available	LED, Red, Part of REF.NO.D202	—
Q601	VS2SB562-C/-1	Silicon, PNP, 2SB562 C	AD	D622	Not Available	LED, Red, Part of REF.NO.D202	—
Q602	VS2SB562-C/-1	Silicon, PNP, 2SB562 C	AD	D624	VHD1S2473//U	Silicon, 1S2473	AB
Q603	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D801/802	VHD1SS200//1	Silicon, 1SS200	AB
Q604	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D803/804	VHD1SS200//1	Silicon, 1SS200	AB
Q801	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D805	VHD1S2473//U	Silicon, 1S2473	AB
Q802	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D807	VHD1S2473//U	Silicon, 1S2473	AB
Q803	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AB	D808/811	VHD1SS201//1	Silicon, 1SS201	AB
Q804	VS2SC1815GR-1	Silicon, NPN, 2SC1815 GR	AF	D810	VHD1S2473//U	Silicon, 1S2473	AB
Q805	VS2SA1015GR-1	Silicon, PNP, 2SA1015 GR	AB	D812/813	VHD1SS201//1	Silicon, 1SS201	AB
Q806	VS2SA1015GR-1	Silicon, PNP, 2SA1015 GR	AB	D814	VHD1S2076//1	Silicon, 1S2076	AB
				D815	VHD1S2076//U	Silicon, 1S2076	AB
				D816	VHD1S2473//U	Silicon, 1S2473	AB
				△ D901	VHD10E-4NFD-1	Silicon, 10E-4	AB
				△ D902	VHD10E-4NFD-1	Silicon, 10E-4	AB
				△ D903	VHD10E-4NFD-1	Silicon, 10E-4	AB
				△ D904	VHD10E-4NFD-1	Silicon, 10E-4	AB

REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE				
<b>COILS</b>											
L1	RCILA0620AFZZ	FM Band Pass Filter	AC	R503(A~J)	RR-DZ1013AFZZ	1.2 kohms×5, 12 kohms	AB				
L2	RCILB0672AFZZ	FM RF	AC			×5, ±5%, 1/8W					
L3	RCILB0672AFZZ	FM Oscillator	AC	R504(A~J)	RR-DZ1013AFZZ	1.2 kohms×5, 12 kohms	AB				
L6	RCILA0556AFZZ	SW <sub>2</sub> Antenna	AD			×5, ±5%, 1/8W					
L7	RCILA0667AFZZ	Bar Antenna, AM/SW <sub>1</sub>	AM	<b>ELECTROLYTIC CAPACITORS</b>							
L8	RCILB0625AFZZ	SW <sub>2</sub> Oscillator	AC	C12	RC-EZV336AF1C	33μF, 16V	AB				
L9	RCILB0624AFZZ	SW <sub>1</sub> Oscillator	AC	C15	RC-EZA106AF1C	10μF, 16V	AB				
L10	RCILB0623AFZZ	AM Local Oscillation	AC	C20	RC-EZA476AF1A	47μF, 10V	AB				
L201	RCILZ0104AFZZ	Peaking, 6.8mH	AC	C25	RC-EZV107AF1A	100μF, 10V	AB				
L202	RCILZ0104AFZZ	Peaking, 6.8mH	AC	C26	RC-EZA475AF1E	4.7μF, 25V	AB				
L205	RCILF0072AFZZ	Bias Oscillator, 510μH	AC	C40	RC-EZA106AF1C	10μF, 16V	AB				
L401	RCILF0014AGZZ	Noise Suppressor, 47μH	AB	C41	RC-EZV335AF1H	3.3μF, 50V	AB				
△ L801	RCILF0014AGZZ	Noise Suppressor, 47μH	AB	C42	RC-EZA105AF1H	1μF, 50V	AB				
△ L802	RCILF0014AGZZ	Noise Suppressor, 47μH	AB	C44	RC-EZA475AF1E	4.7μF, 25V	AB				
<b>TRANSFORMERS</b>											
T1	RCILI0324AFZZ	FM IF	AC	C47	RC-EZY105AF1H	1μF, 50V	AB				
T2	RCILI0312AFZZ	FM Detector	AC	C48	RC-EZY105AF1H	1μF, 50V	AB				
T3	RCILI0310AFZZ	AM IF	AC	C49	RC-EZV227AF1A	220μF, 10V	AC				
△ T901	RTRNP0995AFZZ	Power	AV	C74	RC-EZA106AF1C	10μF, 16V	AB				
<b>FILTERS</b>											
CF1	RFILF0080AFZZ	Ceramic, 10.7MHz (FM IF)	AD	C75	RC-EZA476AF1A	47μF, 10V	AB				
CF3	RFILA0085AFZZ	Ceramic, 455KHz (AM IF)	AE	C101	VCEALA1EC475M	4.7μF, 25V	AB				
<b>CONTROLS</b>											
VC1,2, VC3,4, TC1,2, TC4,7	RVC-R0096AFZZ	Variable Capacitors, Tuning with Trimmers: TC1:FM RF Trimmer TC2:FM Oscillation Trimmer TC4:SW <sub>1</sub> Antenna Trimmer TC7:SW <sub>1</sub> Oscillation Trimmer	AN	C102	VCEALV1EC475M	4.7μF, 25V	AC				
VC5	RVC-Z0062AFZZ	Fine Tuning	AF	C103	RC-EZA107AF1A	100μF, 10V	AB				
TC3	RTO-H1072AFZZ	SW <sub>2</sub> Antenna Trimmer	AC	C104	RC-EZA107AF1A	100μF, 10V	AB				
TC5	RTO-H1072AFZZ	AM Antenna Trimmer	AC	C111	RC-EZA105AF1H	1μF, 50V	AB				
TC6	RTO-H1072AFZZ	SW <sub>2</sub> Oscillation Trimmer	AC	C112	RC-EZA105AF1H	1μF, 50V	AB				
TC8	RTO-H1072AFZZ	AM Oscillation Trimmer	AC	C115	RC-EZ1210AFZZ	100μF, 16V	AB				
VR1	RVR-M0390AFZZ	5 kohms (B), V.C.O. Adjustment	AB	C116	RC-EZA106AF1C	10μF, 16V	AB				
VR101	RVR-Q0136AFZZ	20 kohms (B), Volume Control	AG	C137	VCEALA1EC475M	4.7μF, 25V	AB				
VR102	RVR-Q0137AFZZ	50 kohms (B), Balance Control	AE	C138	VCEALA1EC475M	4.7μF, 25V	AB				
VR501-A,B VR502-A,B VR503-A,B VR504-A,B VR505-A,B	RVR-Z0160AFZZ	100 kohm(B), 5Segment, Graphic Equalizer Control	AV	C141	RC-EZA107AF1A	100μF, 10V	AB				
VR801	RVR-M0431AFZZ	5 kohms (B), Deck1 Dubbing Speed Control (High)	AC	C142	RC-EZA107AF1A	100μF, 10V	AB				
VR802	RVR-M0431AFZZ	5 kohms (B), Deck2 Dubbing Speed Control (High)	AC	C145	RC-EZA105AF1H	1μF, 50V	AB				
VR803	RVR-M0432AFZZ	10 kohm (B), Deck1 Dubbing Speed Control (Normal)	AC	C146	RC-EZA105AF1H	1μF, 50V	AB				
VR804	RVR-M0432AFZZ	10 kohm (B), Deck2 Dubbing Speed Control (Normal)	AC	C149	RC-EZA106AF1C	10μF, 16V	AB				
<b>RESISTOR ARRAY</b>											
R501(1~5)	RR-DZ1012AFZZ	120 kohms×5, ±5%, 1/8W	AB	C150	RC-EZ1210AFZZ	100μF, 16V	AB				
R502(1~5)	RR-DZ1012AFZZ	120 kohms×5, ±5%, 1/8W	AB	C165	RC-EZA476AF1A	47μF, 10V	AB				
				C167	RC-EZA476AF1A	47μF, 10V	AB				
				C168	RC-EZA476AF1A	47μF, 10V	AB				
				C169	RC-EZY475AF1E	4.7μF, 25V	AB				
				C170	RC-EZY475AF1E	4.7μF, 25V	AB				
				C171	RC-EZ1210AFZZ	100μF, 16V	AB				
				C171	RC-EZ1210AFZZ	100μF, 16V	AB				
				C203	RC-EZA106AF1C	10μF, 16V	AB				
				C204	RC-EZA106AF1C	10μF, 16V	AB				
				C209	RC-EZY474AF1H	0.47μF, 50V	AB				
				C210	RC-EZY474AF1H	0.47μF, 50V	AB				
				C215	RC-EZA105AF1H	1μF, 50V	AB				
				C217	RC-EZ1210AFZZ	100μF, 16V	AB				
				C218	RC-EZV107AF1A	100μF, 10V	AB				
				C234	RC-EZ1210AFZZ	100μF, 16V	AB				
				C241	RC-EZA476AF1A	47μF, 10V	AB				
				C242	RC-EZA476AF1A	47μF, 10V	AB				
				C243	RC-EZA475AF1E	4.7μF, 25V	AB				
				C244	RC-EZY475AF1E	4.7μF, 25V	AB				
				C253	RC-EZY105AF1H	1μF, 50V	AB				
				C254	RC-EZY105AF1H	1μF, 50V	AB				
				C255	RC-EZ1210AFZZ	100μF, 16V	AB				
				C273	RC-EZY476AF1C	47μF, 16V	AB				
				C274	RC-EZY106AF1C	10μF, 16V	AB				
				C275	RC-EZY335AF1H	3.3μF, 50V	AB				
				C281	RC-EZA475AF1E	4.7μF, 25V	AB				
				C282	RC-EZA105AF1H	1μF, 50V	AB				
				C284	RC-EZ1209AFZZ	100μF, 16V	AB				
				C403	RC-EZA107AF1A	100μF, 10V	AB				
				C404	RC-EZA107AF1A	100μF, 10V	AB				
				C405	RC-EZA107AF1A	100μF, 10V	AB				
				C406	RC-EZA107AF1A	100μF, 10V	AB				

**QT-90ZR/ZG      QT-90ZR/ZG**

REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE
C407	RC-EZV108AF1C	1000 $\mu$ F, 16V	AD	C71	VCTYMF1HV472K	0.0047 $\mu$ F, 50V, $\pm$ 10%, SC	AA	C514	VCTYPA1EX104M	0.1 $\mu$ F, 25V, $\pm$ 20%, SC	AB	R115	VRD-MF2EE332J	3.3 kohms	AA
C408	RC-EZV108AF1C	1000 $\mu$ F, 16V	AD	C72	VCTYMF1CY223N	0.022 $\mu$ F, 16V, $\pm$ 30%, SC	AA	C515	VCKYPA1HB471K	470PF, 50V, $\pm$ 10%, CM	AA	R116	VRD-MF2EE332J	3.3 kohms	AA
C412	RC-EZ1210AFZZ	100 $\mu$ F, 16V	AB	C73	VCTYMF1CY223N	0.022 $\mu$ F, 16V, $\pm$ 30%, SC	AA	C516	VCKYPA1HB471K	470PF, 50V, $\pm$ 10%, CM	AA	R117	VRD-MF2EE153J	15 kohms	AA
C413	RC-EZ1252AFZZ	3300 $\mu$ F, 16V	AF	C76	VCCCMF1HH6R8D	6.8PF(CH), 50V, $\pm$ 0.5PF, CM	AA	C517	VCTYPA1EX333K	0.033 $\mu$ F, 25V, $\pm$ 10%, SC	AA	R118	VRD-MF2EE153J	15 kohms	AA
C431	RC-EZA476AF1C	47 $\mu$ F, 16V	AB	C105	VCKYMF1HB221K	220PF, 50V, $\pm$ 10%, CM	AA	C518	VCTYPA1EX333K	0.033 $\mu$ F, 25V, $\pm$ 10%, SC	AA	R119	VRD-MF2EE221J	220 ohms	AA
C433	RC-EZ1210AFZZ	100 $\mu$ F, 16V	AB	C106	VCKYMF1HB221K	220PF, 50V, $\pm$ 10%, CM	AA	C519	VCCSPA1HL181K	180PF, 50V, $\pm$ 10%, CM	AA	R120	VRD-MF2EE221J	220 ohms	AA
C435	RC-EZA475AF1E	4.7 $\mu$ F, 25V	AB	C107	VCKYMF1HB391K	390PF, 50V, $\pm$ 10%, CM	AA	C520	VCCSPA1HL181K	180PF, 50V, $\pm$ 10%, CM	AA	R121	VRD-MF2EE561J	560 ohms	AA
C501	RC-EZY105AF1H	1 $\mu$ F, 50V	AB	C108	VCKYMF1HB391K	390PF, 50V, $\pm$ 10%, CM	AA	C521	VCTYPA1EX103K	0.01 $\mu$ F, 25V, $\pm$ 10%, SC	AA	R122	VRD-MF2EE393J	39 kohms	AA
C502	RC-EZY105AF1H	1 $\mu$ F, 50V	AB	C109	VCTYMF1CY223M	0.022 $\mu$ F, 16V, $\pm$ 20%, SC	AB	C522	VCTYPA1EX103K	0.01 $\mu$ F, 25V, $\pm$ 10%, SC	AA	R133	VRD-MF2EE221J	220 ohms	AA
C505	RC-EZY105AF1H	1 $\mu$ F, 50V	AB	C110	VCTYMF1CY223M	0.022 $\mu$ F, 16V, $\pm$ 20%, SC	AB	C603	VCTYPA1EX473K	0.047 $\mu$ F, 25V, $\pm$ 10%, SC	AA	R134	VRD-MF2EE221J	220 ohms	AA
C506	RC-EZY105AF1H	1 $\mu$ F, 50V	AB	C113	VCTYMF1HV152K	0.0015 $\mu$ F, 50V, $\pm$ 10%, SC	AA	C604	VCTYMF1HV182K	0.0018 $\mu$ F, 50V, $\pm$ 10%, SC	AA	R135	VRD-MF2EE273J	27 kohms	AA
C509	RC-EZA334AF1H	0.33 $\mu$ F, 50V	AB	C114	VCTYMF1HV152K	0.0015 $\mu$ F, 50V, $\pm$ 10%, SC	AA	C610	VCTYMF1CY223N	0.022 $\mu$ F, 16V, $\pm$ 30%, SC	AA	R136	VRD-MF2EE273J	27 kohms	AA
C510	RC-EZA334AF1H	0.33 $\mu$ F, 50V	AB	C135	VCKYMF1HB471K	470PF, 50V, $\pm$ 10%, CM	AA	C613	VCTYMF1CY223N	0.022 $\mu$ F, 16V, $\pm$ 30%, SC	AA	R137	VRD-MF2EE820J	82 ohms	AA
C523	RC-EZA106AF1C	10 $\mu$ F, 16V	AB	C136	VCKYMF1HB471K	470PF, 50V, $\pm$ 10%, CM	AA	C614	VCTYMF1CY223N	0.022 $\mu$ F, 16V, $\pm$ 30%, SC	AA	R138	VRD-MF2EE820J	82 ohms	AA
C524	RC-EZA106AF1C	10 $\mu$ F, 16V	AB	C139	VCKYMF1HB221K	220PF, 50V, $\pm$ 10%, CM	AA	C811	VCKYPU1HB222M	0.0022 $\mu$ F, 50V, $\pm$ 20%, CM	AA	R139	VRD-MF2EE682J	6.8 kohms	AA
C525	RC-EZY105AF1H	1 $\mu$ F, 50V	AB	C140	VCKYMF1HB221K	220PF, 50V, $\pm$ 10%, CM	AA	C812	VCKYPU1HB222M	0.0022 $\mu$ F, 50V, $\pm$ 20%, CM	AA	R140	VRD-MF2EE682J	6.8 kohms	AA
C526	RC-EZY105AF1H	1 $\mu$ F, 50V	AB	△ C901	VCKZPV1HF103Z	0.01 $\mu$ F, 50V, +80 $\rightarrow$ 20%, CM	AA	R141	VRD-MF2EE154J	150 kohms	AA				
C527	RC-EZ1210AFZZ	100 $\mu$ F, 16V	AB	C143	VCTYMF1CY223M	0.022 $\mu$ F, 16V, $\pm$ 20%, SC	AB	△ C902	VCKZPV1HF103Z	0.01 $\mu$ F, 50V, +80 $\rightarrow$ 20%, CM	AA	R142	VRD-MF2EE154J	150 kohms	AA
C528	RC-EZ1227AFZZ	220 $\mu$ F, 16V	AB	C144	VCTYMF1CY223M	0.022 $\mu$ F, 16V, $\pm$ 20%, SC	AB	△ C903	VCKZPV1HF103Z	0.01 $\mu$ F, 50V, +80 $\rightarrow$ 20%, CM	AA	R143	VRD-MF2EE332J	3.3 kohms	AA
C601	RC-EZY474AF1H	0.47 $\mu$ F, 50V	AB	C147	VCTYMF1CY223M	0.022 $\mu$ F, 16V, $\pm$ 20%, SC	AB	△ C904	VCKZPV1HF103Z	0.01 $\mu$ F, 50V, +80 $\rightarrow$ 20%, CM	AA	R144	VRD-MF2EE332J	3.3 kohms	AA
C602	VCEALA1CW106M	10 $\mu$ F, 16V	AB	C148	VCTYMF1CY223M	0.022 $\mu$ F, 16V, $\pm$ 20%, SC	AB	R145	VRD-MF2EE272J	2.7 kohms	AA				
C605	RC-EZV474AF1H	0.47 $\mu$ F, 50V	AB	C163	VCKYMF1HB102K	0.001 $\mu$ F, 50V, $\pm$ 10%, CM	AA	R146	VRD-MF2EE272J	2.7 kohms	AA				
C606	RC-EZA106AF1C	10 $\mu$ F, 16V	AB	C164	VCKYMF1HB102K	0.001 $\mu$ F, 50V, $\pm$ 10%, CM	AA	R147	VRD-MF2EE153J	15 kohms	AA				
C607	RC-EZA226AF1C	22 $\mu$ F, 16V	AG	C177	VCTYPA1CX683M	0.068 $\mu$ F, 16V, $\pm$ 20%, SC	AA	R148	VRD-MF2EE153J	15 kohms	AA				
C608	RC-EZY474AF1H	0.47 $\mu$ F, 50V	AB	C178	VCTYPA1CX683M	0.068 $\mu$ F, 16V, $\pm$ 20%, SC	AA	R150	VRD-MF2EE561J	560 ohms	AA				
C609	RC-EZ1210AFZZ	100 $\mu$ F, 16V	AB	C179	VCTYMF1HV222K	0.0022 $\mu$ F, 50V, $\pm$ 10%, SC	AA	R161	VRD-MF2EE273J	27 kohms	AA				
C611	RC-EZA105AF1H	1 $\mu$ F, 50V	AB	C180	VCTYMF1HV222K	0.0022 $\mu$ F, 50V, $\pm$ 10%, SC	AA	R162	VRD-MF2EE273J	27 kohms	AA				
△ C801	RC-EZ1227AFZZ	220 $\mu$ F, 16V	AB	C201	VCKYMF1HB221K	220PF, 50V, $\pm$ 10%, CM	AA	R163	VRD-MF2EE103J	10 kohm	AA				
△ C802	RC-EZ1227AFZZ	220 $\mu$ F, 16V	AB	C202	VCKYMF1HB221K	220PF, 50V, $\pm$ 10%, CM	AA	R164	VRD-MF2EE103J	10 kohm	AA				
C805	RC-EZV474AF1H	0.47 $\mu$ F, 50V	AB	C205	VCTYMF1EX562K	0.0056 $\mu$ F, 25V, $\pm$ 10%, SC	AA	R165	VRD-MF2EE472J	4.7 kohms	AA				
<b>CAPACITORS</b>															
(The terms CM, SC, ML, ST and PP used here indicate the types of capacitor ceramic type, semiconductor type, mylar type, styrol type and polypropylene type.)															
C1	VCCSMF1HL100J	10pF, 50V, $\pm$ 5%, CM	AA	C233	VCTYPA1EX473K	0.047 $\mu$ F, 25V, $\pm$ 10%, SC	AA	R1	VRD-MF2EE391J	390 ohms	AA	R170	VRD-MF2EE332J	3.3 kohms	AA
C2	VCTYMF1HV472K	0.0047 $\mu$ F, 50V, $\pm$ 10%, SC	AA	C235	VCQPKV2AA472J	0.0047 $\mu$ F, 100V, $\pm$ 5%, PP	AB	R4	VRD-MF2EE824J	820 kohms	AA	R171	VRD-MF2EE473J	47 kohms	AA
C3	VCTYMF1HV472K	0.0047 $\mu$ F, 50V, $\pm$ 10%, SC	AA	C236	VCQYKA1HM393J	0.039 $\mu$ F, 50V, $\pm$ 5%, ML	AB	C232	VCKYMF1HB271K	270PF, 50V, $\pm$ 10%, CM	AA	R5	VRD-MF2EE182J	1.8 kohms	AA
C4	VCCCMF1HH240J	24PF(CH), 50V, $\pm$ 5%, CM	AA	C237	VCQPKV2AA122J	0.0012 $\mu$ F, 100V, $\pm$ 5%, PP	AB	C238	VCKYMF1HB681K	680PF, 50V, $\pm$ 10%, CM	AA	R6	VRD-MF2EE822J	8.2 kohms	AA
C6	VCCCMF1HH150J	15PF(CH), 50V, $\pm$ 5%, CM	AA	C245	VCKYMF1HB221K	220PF, 50V, $\pm$ 10%, CM	AA	C246	VCKYMF1HB221K	220PF, 50V, $\pm$ 10%, CM	AA	R7	VRD-MF2EE272J	2.7 kohms	AA
C7	VCCCMF1HH100J	10PF(CH), 50V, $\pm$ 5%, CM	AA	C249	VCTYMF1EX103K	0.01 $\mu$ F, 25V, $\pm$ 10%, SC	AA	C250	VCTYMF1EX103K	0.01 $\mu$ F, 25V, $\pm$ 10%, SC	AA	R8	VRD-MF2EE680J	68 ohms	AA
C8	VCTYMF1HV152K	0.0015 $\mu$ F, 5													

**QT-90ZR/ZG      QT-90ZR/ZG**

REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE
R218	VRD-MF2EE332J	3.3 kohms	AA	R601	VRD-MF2EE224J	220 kohms	AA	△ S0901	QSOCE0561AFZZ	Socket, AC Power Supply	AH	43	94R17100603	Belt, Fast-Forward/Rewind	AG
R219	VRD-MF2EE102J	1 kohm	AA	R602	VRD-MF2EE394J	390 kohms	AA	△ S0902	Not Available	Socket, DC Power Supply	—	44	94R182009501	Roller Drive	
R220	VRD-MF2EE102J	1 kohm	AA	R603	VRD-MF2EE273J	27 kohms	AA		(12V) Part of			45	94R18200805	Lever, Fast-Forward/Rewind	AF
R223	VRD-MF2EE123J	12 kohms	AA	R604	VRD-MF2EE101J	100 ohm	AA		REF.NO. S0901			46	94R18200811	Lever, Auto	AD
R224	VRD-MF2EE123J	12 kohms	AA	R606	VRD-MF2EE103J	10 kohm	AA	SW1	QSW-S0417AFZZ	Switch, Slide Type	AL	47	94R18201001	Spacer	AA
R225	VRD-MF2EE332J	3.3 kohm	AA	R607	VRD-MF2EE563J	56 kohms	AA	SW101	QSW-S0407AFZZ	Switch, Push Type	AE	48	94R18201025	Base, Fast-Forward Lever/ Stop Lever/Pause Lever	AF
R226	VRD-MF2EE332J	3.3 kohm	AA	R608	VRD-MF2EE273J	27 kohms	AA	SW202~208	QSW-P0513AFZZ	Switch, Push Type	AR	49	94R18201002	Screw	AA
R231	VRD-MF2EE271J	270 ohms	AA	R609	VRD-MF2EE221J	220 ohms	AA	SW251	QSW-S0267AFZZ	Switch, Slide Type	AD	50	94R18200201	Base, Deck2 Record Lever/ Playback Lever/ Rewind Lever	AF
R232	VRD-MF2EE680J	68 ohms	AA	R610	VRD-MF2EE153J	15 kohms	AA	SW252	QSW-S0309AFZZ	Switch, Slide Type	AF	51	94R18201018	Lever, Deck2 Record Stop	AD
R233	VRD-MF2EE331J	330 ohms	AA	R611	VRD-MF2EE153J	15 kohms	AA	SW601	QSW-K0068AFZZ	Switch, Push Type	AD	52	94R18201019	Lever, Deck2 Record	AE
R234	VRD-MF2EE120J	12 ohms	AA	R612	VRD-MF2EE103J	10 kohm	AA	SW811	94RMSW-1412TNK	Switch, Leaf Type	AE	53	94R18201020	Lever, Playback	AD
R235	VRD-MF2EE104J	100 kohm	AA	R613	VRD-MF2EE271J	270 ohms	AA	SW812	94RMSW-1412	Switch, Leaf Type	AE	54	94R18201021	Lever, Rewind	AD
R236	VRD-MF2EE153J	15 kohms	AA	R614	VRD-MF2EE334J	330 kohms	AA	NBKG				55	94R18201022	Lever, Fast-Forward	AD
R237	VRD-MF2EE100J	10 ohm	AA	R615	VRD-MF2EE103J	10 kohm	AA	SW813	94RMSW-1412TNK	Switch, Leaf Type	AE	56	94R182010501	Lever, Stop	AD
R241	VRD-MF2EE563J	56 kohms	AA	R616	VRD-MF2EE103J	10 kohm	AA	SW814	94RMSW-1275	Switch, Leaf Type	AE	57	94R18201026	Lever, Pause	AF
R242	VRD-MF2EE563J	56 kohms	AA	R617	VRD-MF2EE103J	10 kohm	AA	SW821	94RMSW-1412TNK	Switch, Leaf Type	AE			Spring, Deck2 Record Lever/ Playback Lever	AC
R243	VRD-MF2EE222J	2.2 kohms	AA	R618	VRD-MF2EE103J	10 kohm	AA	SW822	94RMSW1412	Switch, Leaf Type	AE			Playback Lever/ Rewind Lever	
R244	VRD-MF2EE222J	2.2 kohms	AA	R619	VRD-MF2EE224J	220 kohms	AA	NBKG							
R245	VRD-MF2EE563J	56 kohms	AA	R620	VRD-MF2EE224J	220 kohms	AA	SW823	94RMSW-1412TNK	Switch, Leaf Type	AE				
R246	VRD-MF2EE563J	56 kohms	AA	R621	VRD-MF2EE104J	100 kohm	AA	SW824	94RMSW1275	Switch, Leaf Type	AE				
R247	VRD-MF2EE222J	2.2 kohms	AA	R622	VRD-MF2EE103J	10 kohm	AA	NBKG							
R248	VRD-MF2EE222J	2.2 kohms	AA	R623	VRD-MF2EE104J	100 kohm	AA	SW901	Switch, Leaf Type Part of	—		58	94R18201027	Spring, Stop Lever	AC
R249	VRD-MF2EE273J	27 kohms	AA	R624	VRD-MF2EE103J	10 kohm	AA		REF.NO. S0901			59	94R18201034	Spring, Pause Lock Lever	AC
R250	VRD-MF2EE273J	27 kohms	AA	R625	VRD-MF2EE103J	10 kohm	AA					60	94R18201041	Lever, Pause Lock	AC
R251	VRD-MF2EE822J	8.2 kohms	AA	R626	VRD-MF2EE122J	1.2 kohms	AA					61	94R18201032	Stopper, Pause Lock Lever	AA
R252	VRD-MF2EE822J	8.2 kohms	AA	R627	VRD-MF2EE101J	100 ohm	AA					62	94R18201505	Spring, Deck1 Lock Release Lever	AC
R253	VRD-MF2EE154J	150 kohms	AA	R628	VRD-MF2EE101J	100 ohm	AA	1	94R15591409	Spring, Fast-Forward/Rewind Lever	AC				
R254	VRD-MF2EE154J	150 kohms	AA	R629	VRD-MF2EE152J	1.5 kohms	AA					63	94R18201517	Lever, Deck1 Lock Release	AE
R255	VRD-MF2EE472J	4.7 kohms	AA	R630	VRD-MF2EE152J	1.5 kohms	AA	2	94R14400315	Spring, Head Azimuth	AB				
R256	VRD-MF2EE472J	4.7 kohms	AA	R631	VRD-MF2EE821J	820 ohms	AA	3	94R4461102	Cushion, Motor Bracket	AA				
R257	VRD-MF2EE562J	5.6 kohms	AA	R632	VRD-MF2EE394J	390 kohms	AA	4	94R18200311	Head Base	AE				
R258	VRD-MF2EE562J	5.6 kohms	AA	R633	VRD-MF2EE393J	39 kohms	AA	5	94R182003501	Sub-Chassis	AF				
R259	VRD-MF2EE561J	560 ohms	AA	R634	VRD-MF2EE563J	56 kohms	AA	6	94R18200316	Collar Screw	AB				
R261	VRD-MF2EE221J	220 ohms	AA	R635	VRD-MF2EE103J	10 kohm	AA	7	94R18200302	Spring, Sub-Chassis	AC				
R262	VRD-MF2EE221J	220 ohms	AA	R636	VRD-ST2EE103J	10 kohm	AA	8	94R182003301	Idler, Playback	AH				
R263	VRD-MF2EE221J	220 ohms	AA	R801	VRD-MF2EE104J	100 kohm	AA	9	94R18200312	Spring, Playback Idler	AC				
R264	VRD-MF2EE221J	220 ohms	AA	R802	VRD-MF2EE104J	100 kohm	AA	10	94R17152015	Stopper, Function Lever	AA				
R265	VRD-MF2EE221J	220 ohms	AA	R803	VRD-MF2EE822J	8.2 kohms	AA	11	94R182004301	Pinch roller	AH				
R266	VRD-MF2EE103J	10 kohm	AA	R804	VRD-MF2EE822J	8.2 kohms	AA								
R273	VRD-MF2EE183J	18 kohms	AA	R805	VRD-MF2EE563J	56 kohms	AA	12	94R18200101	Main Chassis	AU				
R274	VRD-MF2EE103J	10 kohm	AA	R806	VRD-MF2EE563J	56 kohms	AA	13	94R18000201	Deck2 Lever, Record Safety	AC				
R275	VRD-MF2EE470J	47 ohms	AA	R809	VRD-MF2EE222J	2.2 kohms	AA	14	94R18200107	Spring, Pack Hold	AD				
R276	VRD-MF2EE153J	15 kohms	AA	R811	VRD-MF2EE153J	15 kohms	AA	15	94R18201207	Bracket, Flywheel	AG				
R277	VRD-MF2EE224J	220 kohms	AA	R812	VRD-MF2EE333J	33 kohms	AA	16	94R18201420	Lever, Cassette Eject	AD				
R278	VRD-MF2EE103J	10 kohm	AA	R813	VRD-MF2EE822J	8.2 kohms	AA	17	94R18201418	Collar Screw	AB				
R281	VRD-MF2EE472J	4.7 kohms	AA	R814	VRD-MF2EE822J	8.2 kohms	AA	18	94R15590306	Spring, Head Base	AC				
R282	VRD-MF2EE684J	680 kohms	AA	R815	VRD-MF2EE682J	6.8 kohms	AA	19	94R18201419	Collar Screw	AB				
R283	VRD-MF2EE472J	4.7 kohms	AA	R816	VRD-MF2EE682J	6.8 kohms	AA	20	94R18200905	Lever, Control	AD				
R284	VRD-MF2EE101J	100 ohm	AA	R818	VRD-MF2EE222J	2.2 kohms	AA	21	94R18200913	Spring, Control Lever	AC				
R285	VRD-MF2EE331J	330 ohms	AA	R819	VRD-ST2EE563J	56 kohms	AA	22	94R18200902	Spring, Brake	AC				
R286	VRD-MF2EE103J	10 kohm	AA	R820	VRD-ST2EE103J	10 kohm	AA	23	94R182009301	Lever, Brake	AG				
R401	VRD-MF2														

REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE
100	94R18201137	Screw	AA			CABINET PARTS	
101	94R18200911	Lever, Kick	AC	201	CCAB-1278AF01	Front Cabinet Combined Assembly (QT-90ZR)	BA
102	94R18000903	Spring, Fast-Forward Lever/ Pause Lever	AC	201	CCAB-1278AF03	Front Cabinet Combined Assembly (QT-90ZG)	BA
103	94R18200819	Collar Screw	AA	201-1	GCAB-1278AFSA	Front Cabinet Assembly (QT- BA 90ZR)	BA
104	94R18200403	Spring, Pinch Roller	AC	201-1	GCAB-1278AFSB	Front Cabinet Assembly (QT- BA 90ZG)	
105	94R18201035	Stopper, Mechanism Button Lever	AB	201-1-1	Not Available	Front Cabinet (QT-90ZR)	—
106	94R18201036	Stopper, Fast-Forward/ Rewind	AB	201-1-1	Not Available	Front Cabinet (QT-90ZG)	—
107	94R18201015	Flame, Mechanism Button	AE	201-1-2	HDALP0534AFSA	Plate, Dial Scale (QT-90ZR)	AH
108	94R18201016	Shaft, Mechanism Button Lever	AC	201-1-2	HDALP0534AFSB	Plate, Dial Scale (QT-90ZG)	AH
109	94R18201028	Lever, Mechanism Button	AC	201-1-3	HDECA0556AFSC	Decoration Plate, Cabinet(QT- AG 90ZR)	
111	JBTN-0207AFZZ	Deck2 Mechanism Button Assembly	AL	201-1-3	HDECA0556AFSB	Decoration Plate, Cabinet(QT- AG 90ZG)	
111-1	JKNBM0520AFSB	Button, Playback	AD	201-1-4	HINDP0785AFSA	Plate, Graphic Equalizer	AE
111-2	JKNBM0521AFSA	Button, Rewind	AD	201-1-5	PCOVM9056AF00	Cover, Graphic Equalizer	AA
111-3	JKNBM0522AFSA	Button, Fast-Forward	AD	201-3	PFLT-0589AF00	Felt, Leg	AA
111-4	JKNBM0523AFSA	Button, Stop	AD	201-4	PSLDC7073AFZZ	Plate, Shield	AB
111-5	JKNBM0524AFSA	Button, Pause	AD	201-5	TLABZ0130AFZZ	Plate, Mirror	AA
111-6	JKNBM0525AFSB	Button, Record	AD	202	CCABB1854AF05	Back Cabinet Assembly	AT
112	JBTN-0206AFZZ	Deck1 Mechanism Button Assembly (111-1~111-5)	AL	202-1	Not Available	Back Cabinet	—
113	LANGZ0116AFFW	Bracket, Wire	AC	202-2	PSLDM9105AFZZ	Plate, Shield	AE
114	LX-HZ0085AFZZ	Screw, 4mm Dia. × 20mm	AB	202-3	PCUSS0235AFZZ	Cushion, Battery	AB
115	MLEVF1559AFFW	Lever, Record/Playback Change	AC	202-4	LANGQ0897AFZZ	Bracket, Telescopic Rod Antenna	AB
116	MSPRT1047AFFJ	Spring, Record/Playback Change Lever	AA	203	CSPRT0750AF12	Dial Cord Spring Assembly	AD
117	RHEDA0119AFZZ	Deck2 Head, Erase	AH	203-1	MSPRT0750AFFW	Spring, Dial Stringing	AA
118	RHEDF0087AFZZ	Deck1 Head, Playback	AH	204	GFTAB1152AFSB	Lid, Battery Compartment	AE
119	RHEDH0128AFZZ	Deck2 Head, Record/ Playback	AN	205	GFTAC1370AFSA	Deck1 Cassette Holder Lid Assembly (QT-90ZR)	AP
120	MLEVP0482AFZZ	Deck1 Head, Dummy	AB	205	GFTAC1370AFSB	Deck1 Cassette Holder Lid Assembly (QT-90ZG)	AP
121	94R90060000	Pan Screw, 2mm Dia. × 8mm	AA	205-1	GFTAC1371AFSA	Lid, Cassette Holder (QT-90ZR)	AP
122	94R92120000	Pan Screw, 2mm Dia. × 7mm	AA	205-1	GFTAC1371AFSB	Lid, Cassette Holder (QT-90ZG)	AP
123	94R93160000	Washer, 2.1mm Dia. × 5mm Dia. × 0.2mm	AA	205-2	GFTAC1360AFSA	Transparent Plate, Cassette Holder Lid	AK
125	94R90960000	Tams Screw, 2.6mm Dia. × 4mm	AA	206	GFTAC1361AFSD	Deck2 Cassette Holder Lid Assembly (QT-90ZR)	AP
126	94R90770000	Tams Screw, 2mm Dia. × 4mm	AA	206	GFTAC1361AFSB	Deck2 Cassette Holder Lid Assembly (QT-90ZG)	AP
129	94R90020000	Pan Screw, 2mm Dia. × 4mm	AA	206-1	GFTAC1335AFSB	Lid, Cassette Holder (QT-90ZR)	AK
131	94R93500000	Washer	AA	206-1	GFTAC1335AFSD	Lid, Cassette Holder (QT-90ZG)	AK
132	94R97930000	Washer, Nylon, 1.6mm Dia. × 3.4mm Dia. × 0.3mm	AA	206-2	GFTAC1362AFSB	Transparent Plate, Cassette Holder Lid	AH
133	94R94210000	Washer, Nylon, 1.2mm Dia. × 3mm Dia. × 0.25mm	AA	207	HINDP0890AFSA	Label, Specifications (QT-90ZR)	AB
134	94R94990000	"E" Stop Ring, 1.2mm Dia.	AA	207	HINDP0897AFSA	Label, Specifications (QT-90ZG)	AB
135	94R95050000	"E" Stop Ring, 3.0mm Dia.	AA	208	HSSND0332AFSA	Dial Pointer	AD
136	94R95020000	"E" Stop Ring, 2.0mm Dia.	AA	209	JHNDG1094AFSB	Handle (QT-90ZR)	AP
137	94R90980000	Tams Screw, 2.6mm Dia. × 6MM	AA	209	JHNDG1094AFSD	Handle (QT-90ZG)	AP
138	94R95000000	"E" Stop Ring, 1.5mm Dia.	AA	210	JKNBK0301AFSA	Knob, Tuning Control (QT-90ZR)	AD
139	94R97880000	Washer, Nylon, 2.2mm Dia. × 3.8mm Dia. × 0.4mm	AA	210	JKNBK0301AFSB	Knob, Tuning Control (QT-90ZG)	AC
140	94R95620000	Flat Screw, 2mm Dia. × 3mm	AA				
141	94R91900000	Taptite Screw, 2.6mm Dia. × 3mm	AA				
143	94R93720000	Washer, Nylon, 2mm Dia. × 5mm Dia. × 0.5mm	AA				
145	94R90780000	Tams Screw, 2mm DIA. × 5mm	AA				
146	94R97910000	Washer, Nylon, 5.2mm Dia. X 8mm Dia. X 0.13mm	AA				

REF.NO.	PART NO.	DESCRIPTION	CODE	REF.NO.	PART NO.	DESCRIPTION	CODE
211	JKNBM0518AFSA	Button, Function/FM Mode/ Deck1 Tape Selector/Deck2 Tape Selector	AD	301-1	Not Available	Speaker Box, Left (QT-90ZR)	—
212	JKNBM0518AFSB	Button, Power	AB	301-1	Not Available	Speaker Box, Left (QT-90ZG)	—
213	JKNBM0518AFSC	Button, Dubbing Speed	AB	301-2	HPNC-0183AFSB	Punching Metal, Woofer (QT- AG 90ZR)	—
214	JKNBM0539AFSA	Knob, Band Selector	AC	301-2	HPNC-0183AFSA	Punching Metal, Woofer (QT- AH 90ZG)	—
215	JKNBZ0338AFSA	Knob, Volume/Balance Control	AD	302	GCAB-1280AFSA	Speaker Box Assembly, Right AW (QT-90ZR)	—
216	JKNBZ0339AFSA	Button, Dubbing Start	AC	302	GCAB-1222AFSA	Speaker Box Assembly, Right AY (QT-90ZG)	—
217	KCOUB0154AFZZ	Digital Tape Counter	AH	302-1	Not Available	Speaker Box, Right (QT-90ZR)	—
221	LANGT1236AFFW	Bracket, Digital Tape Counter	AC	302-1	Not Available	Speaker Box, Right (QT-90ZG)	—
222	LANGT1239AFFW	Bracket, Dubbing Start Shaft	AC	302-2	HPNC-0183AFSB	Punching Metal, Woofer (QT- AG 90ZR)	—
223	LHDL1059AFSA	Holder, Handle	AB	302-2	HPNC-0183AFSA	Punching Metal, Woofer (QT- AH 90ZG)	—
224	LHLDW1075AFZZ	Holder, Wire 60mm	AA	303	GCABB1780AFSB	Speaker Back Cabinet, Left	AL
225	LHDX1063AFSA	Holder, Cassette	AE	304	GCABB1781AFSB	Speaker Back Cabinet, Right	AL
226	LHLDZ1229AFSA	Holder, Volume Control	AD	305	HDECQ0224AFSA	Decoration Plate, Tweeter	AE
227	LHLDZ1230AFZZ	Holder, Graphic Equalizer	AD	306	LHDZ1224AFSB	Holder, Speaker Cord	AC
228	LRALP0059AFSA	Rail, Dial Pointer	AG	307	MLEVP0459AFSB	Lever, Speaker Lock/Release	AD
229	LX-CZ0011AFZZ	Taptite Screw, 3mm Dia. × 65mm	AA	308	PCOVP1211AFSB	Cover, Speaker Back Cabinet	AC
230	LX-CZ0032AFFN	Taptite Screw, 3mm Dia. × 16mm, Nichel	AA	309	PFLT-0590AF00	Felt, 14mm × 40mm, Black	AA
231	LX-LZ0051AF00	Push Rivet	AA	310	PFLT-0591AF00	Felt, 14mm × 140mm, Black	AA
232	MLEVF1558AFFF	Lever, Dubbing Start	AD	311	PFLT-0593AF00	Felt, 14mm × 90mm, Black	AA
233	MLEVP0488AFSA	Lever, Cassette Holder Lock	AC	312	PKYU-0075AFZZ	Acoustic Material	—
234	MLIFP0030AFZZ	Damper	AE	313	PFLT-0617AF00	Felt, 7mm × 110mm, Black	AA
235	MRODM0086AFFW	Rod, Dubbing Start	AC	PG1,2	OCNW-2266AFZZ	Cord, Speaker	AG
236	MSPRC0439AFFJ	Spring, Battery (+, -)	AA	SP1	VSP0010PB86SA	Speaker, Woofer	AS
237	MSPRC0409AFFJ	Spring, Battery (-)	AB	SP2	VSP0010PB86SA	Speaker, Woofer	AS
238	MSPRC0421AFFW	Spring, Battery (+)	AB	SP3	RALMB0057AFZZ	Speaker, Ceramic Tweeter	AC
239	MSPRD0532AFFJ	Spring, Cassette Holder Opening (Left)	AB	SP4	RALMB0057AFZZ	Speaker, Ceramic Tweeter	AC
240	MSPRD0533AFFJ	Spring, Cassette Holder Opening (Right)	AB		SPAKA1118AFZZ	Packing Add. (Top)	AF
241	MSPRD0539AFFJ	Spring, Dubbing Start	AB		SPAKA1119AFZZ	Packing Add. (Bottom)	AF
242	NBLTK0278AFZZ	Belt, Digital Tape Counter	AB		SPAKA1123AFZZ	Packing Add. (Speaker)	AE
243	NDRM-0196AFZZ	Drum, Dial Scale	AC		SPAKA1125AFZZ	Packing Add. (Battery)	AD
244	NPLYB0051AFZZ	Pulley, Dial Stringing	AA		SPAKC2764AFZZ	Packing Case (QT-90ZR)	AL
245	NPLYB0071AFZZ	Pulley, Dial Stringing	AB		SPAKC2771AFZZ	Packing Case (QT-90ZG)	AL
246	NSFTZ0113AFFW	Shaft, Tuning Control	AE		SPAKP0405AFZZ	Polyethylene Bag, Unit	AD
248	PCOVW9127AF00	Cover, Terminal	AB		SSAKA0018AFZZ	Polyethylene Bag, AC Power Supply Cord	AA
249	PRDAR0331AFFW	Heat Sink	AC		SSAKA0035AFZZ	Polyethylene Bag, Operation Manual	AA
250	QANTR0130AFZZ	Rod Antenna	AN		SSAKHO172AFZZ	Polyethylene Bag, Speaker Cord	AB
251	QFSHD2051AFZZ	Holder, Fuse	AA		QACCL0050AF00	Cord, AC Power Supply (Refer to Page 8)	AM
253	LANGF0853AFFW	Bracket, Tuning Control Shaft	AC	△	QACCZ0051AF00	Cord, AC Power Supply (Refer to Page 8)	AH
254	LANGH0154AFFW	Bracket, Power Transformer	AC	△	QACCZ0057AF00	Cord, AC Power Supply (Refer to Page 8)	AK
255	GCOVH1179AFSH	Cover, AC Power Supply	AB		QPLGA0251AFZZ	Adaptor, AC Power Supply Cord	AE
258	JKNBK0316AFSA	Knob, Fine Tuning Control (QT-90ZR)	AC		RTPEK0101AFZZ	Cassette Tape	AK
258	JKNBK0316AFSB	Knob, Fine Tuning Control (QT-90ZG)	AD		TCAUA0178AFZZ	Caution Label, AC Power Supply	AA
259	JKNBM0526AFSA	Button, APPS	AC		TGANE1121AFZZ	Warranty Card (For PX)	AC
260	LBOSA0060AFFW	Shaft, Band Selector Knob	AC		TGANE1124AFZZ	Warranty Card (For SCA)	AC
261	LX-BZ0322AFFF	Screw, 2mm Dia.	AA		TINSZ0601AFZZ	Operation Manual	AH
262	PCOVP1214AFZZ	Cover, Band Selector Knob	AA		TLABZ0118AFZZ	Label, N.T.S.	AB
264	QLUGP0109CEFW	Lug Terminal	AA		TLABZ0135AFZZ	Label, EGC	AA
265	HINDP0637AFSB	Label, Warning (For PX)	AB		TLABZ0535AFZZ	Label, POP	AC
266	HINDP0636AFSB	Label, Warning (For Others)	AB		UBATU0009AGZZ	Battery	AC
<b>SPEAKER PARTS</b>							
301	GCAB-1279AFSA	Speaker Box Assembly, Left AW (QT-90ZR)					
301	GCAB-1221AFSA	Speaker Box Assembly, Left AY (QT-90ZG)					

## SPEAKER PARTS

301 GCAB-1279AFSA Speaker Box Assembly, Left AW  
(QT-90ZR)  
301 GCAB-1221AFSA Speaker Box Assembly, Left AY  
(QT-90ZG)